



United Republic of Tanzania

NATIONAL SAMPLE CENSUS OF AGRICULTURE
2002/2003

Volume Vp: REGIONAL REPORT: **KIGOMA REGION**



Cattle Rearing



Fish Harvesting



Eggs Production



Maize Planting



Paddy Growing



Hand Cultivation



Indigenous Chicken Irrigation Practice Orange Marketing Cassava Planting Goats Rearing



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*National Bureau of Statistics, Ministry of agriculture and Food Security,
Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing,
Presidents Office, Regional Administration and Local Government,
Ministry of Finance and Economic Affairs – Zanzibar*

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ACRONYMS

<i>ASDP</i>	<i>Agricultural Sector Development Project</i>
<i>CSPro</i>	<i>Census and Survey Processing Program</i>
<i>DFID</i>	<i>Department for International Development</i>
<i>DIAS</i>	<i>District Integrated Agricultural Survey</i>
<i>DS</i>	<i>District Supervisor</i>
<i>EAS</i>	<i>Expanded Agricultural Survey</i>
<i>EAs</i>	<i>Enumeration Areas</i>
<i>EU</i>	<i>European Union</i>
<i>FE</i>	<i>Field Enumerator</i>
<i>GDP</i>	<i>Gross Domestic Product</i>
<i>Ha</i>	<i>Hectares</i>
<i>IAS</i>	<i>Integrated Agricultural Survey</i>
<i>ICR</i>	<i>Intelligent Character Recognition</i>
<i>IEC</i>	<i>Information, Education and Communication</i>
<i>JICA</i>	<i>Japanese International Cooperation Agency</i>
<i>LRS</i>	<i>Long Rainy Season,</i>
<i>MAFS</i>	<i>Ministry of Agriculture and Food Security</i>
<i>MCM</i>	<i>Ministry of Co-operatives and Marketing</i>
<i>MWLD</i>	<i>Ministry of Water and Livestock Development</i>
<i>NBS</i>	<i>National Bureau of Statistics</i>
<i>NGO</i>	<i>Non Governmental Organization</i>
<i>NMS</i>	<i>National Master Sample</i>
<i>NSCA</i>	<i>National Sample Census of Agriculture</i>
<i>NSGRP</i>	<i>National Strategy for Growth and Reduction of Poverty</i>
<i>PORALG</i>	<i>President's Office, Regional Administration and Local Government</i>
<i>PPS</i>	<i>Probability Proportional to Size</i>
<i>PSU</i>	<i>Primary Sampling Unit</i>
<i>RAAS</i>	<i>Rapid Appraisal Agricultural Survey</i>
<i>RS</i>	<i>Regional Supervisor</i>
<i>RSM</i>	<i>Regional Statistical Manager</i>
<i>SAC</i>	<i>Scotts Agriculture Consultancy Ltd</i>
<i>SPSS</i>	<i>Statistical Package for Social Science</i>
<i>SRS</i>	<i>Short Rainy Season</i>
<i>TOT</i>	<i>Training of Trainers</i>
<i>ULG</i>	<i>Ultek Laurence Gould</i>
<i>UNDP</i>	<i>United Nations Development Programme</i>
<i>UNFAO</i>	<i>United Nations Food and Agriculture Organization</i>
<i>VPO</i>	<i>Vice President Office</i>

PREFACE

At the end of the 2002/03 Agriculture Year, the National Bureau of Statistics and the Office of the Chief Government Statistician in Zanzibar in collaboration with the Ministries of Agriculture and Food Security; Water and Livestock Development; Cooperatives and Marketing as well as the Presidents Office, Regional Administration and Local Government (PORALG) conducted the Agriculture Sample Census. This is the third Agriculture Census to be carried out in Tanzania, the first one was conducted in 1971/72, the second in 1993/94 and 1994/95 (during 1993/94 data on household characteristics and livestock count were collected and data on crop area and production in 1994/95).

It is considered that this census is one of the largest to be carried out in Africa and indeed in many other countries of the world. The census collected detailed data on crop production, crop marketing, crop storage, livestock production, fish farming, tree farming, access to infrastructures and services and poverty indicators.

In addition to this, the census was large in its coverage as it provides data that can be disaggregated at district level and thus allow comparisons with the 1998/99 District Integrated Agricultural Survey. The census covered smallholders in rural areas only and large scale farms. This report presents Kigoma region data disaggregated to district level. It was very difficult to discuss all variables collected in a single report hence the analysis was based on the most important smallholder variables. The rest of the variables are found in the e attached annex of table of results. The analysis in the report includes time series comparisons using data from the previous censuses and surveys.

The extensive nature of the census in relation to its scope and coverage is a result of the increasing demand for more detailed information to assist in the proper planning of this sector and in the administrative decentralization of planning to district level. It is hoped that this report will provide new insights for planners, policy makers, researchers and others involved in the agricultural sector in order to improve the prevailing conditions faced by crop producers and livestock keepers in the country.

On behalf of the Government of Tanzania, I wish to express my appreciation for the financial support provided by the development partners, in particular, the European Union as well as DFID, UNDP, Japanese Government, JICA and others who contributed through the pool fund mechanism.

Finally, my appreciation goes to all those who in one-way or the other contributed to the success of the survey. In particular, I would also like to mention the enormous effort made by the Planning Group composed of professionals from the Agriculture Statistics Department of the National Bureau of Statistics (NBS), the Office of the Chief Government Statistician in Zanzibar (OCGS) and the Statistics Unit of the Ministry of Agriculture and Food Security (MAFS) with technical assistance provided by Ultec Lawrence Gould (ULG), Scotts Agriculture Consultancy Ltd and the Food and Agriculture Organisation of the United Nations (FAO).

Additionally, I would like to extend my appreciation to all professional staff of the National Bureau of Statistics, the sector Ministries of Agriculture and PORALG, the Consultants as well as Regional and District Supervisors and field enumerators for their commendable work. Certainly without their dedication, the census would not have been such a success.

Albina A. Chuwa

The Director General

National Bureau of Statistics

EXECUTIVE SUMMARY

The executive summary highlights the main survey results obtained during the National Sample Census of Agriculture 2002/03. This report covers small-scale agriculture households in rural areas of Kigoma region who were selected using statistical sampling techniques. The results presented in this report do not cover urban areas and large-scale farmers.

Highlighted are important findings regarding agricultural production, productivity, husbandry, access to resources, levels of involvement in agricultural and related activities and poverty in Kigoma region, the aim being to present an overview, at regional level, of the rural agricultural households and their levels of involvement in agricultural activities.

i) Household Characteristics

The number of agricultural households in Kigoma region was 195,756 out of which 135,655 (69.3%) were involved in growing crops only, 911 (0.5%) rearing livestock only, 160 (0.1%) were pastoralist and 59,040 (30.2%) were involved in crop production as well as livestock keeping.

Most of the agricultural households ranked annual crop farming as an activity that provided most of their cash income followed by permanent crop farming, livestock keeping, heading, off farm income, tree/forest resource, remittances and fishing/hunting & gathering.

The region had a literacy rate of 66.8 percent. The highest literacy rate was in Kasulu district (69.0%) followed by Kibondo district (66.2%), Kigoma urban district (65.5%), and Kigoma rural have the lowest literacy rates of 64.9%. The literacy rate for the heads of households in the region was 69.9%.

The number of heads of agricultural households with formal education in Kigoma region was 128,834 (65.8%), those without formal education were 59,307 (30.3%) and those with only adult education were 7,624 (3.9% percent). The majority of heads of agricultural households (63.9) percent had primary level education whereas only 0.4 percent had post primary education.

In Kigoma region 93,401 households (71.9% of households with off-farm income) had each one household member engaged in off-farm income generating activities. Another 26,675 households (20.5%) had two household members engaged in off farm income generating activities and 9,848 households (7.6%) had each more than two members engaged in off-farm income generating activities.

ii) Crop Production

Land Area

The total area of land available to smallholders was 373,576 ha. The regional average land area utilised for crop production per crop growing household was only 1.3 ha. This figure was below the national average of 2.0 hectares.

■ Planted Area

The area planted with annual crops and vegetables was 264,9746 hectares out of which 145,143 hectares (54.5%) were planted during short rainy season and 119,831 hectares (45.4%) during long rainy season.

An estimated area of 94,282 ha (35.6% of the total planted area with annual and vegetable crops) was planted with cereals, followed by 78,510 hectares (29.6%) of root and tubers, 77,848 ha (29.4%) of pulses, 11,202 ha (4.2 percent) of oil seeds and oil nuts, 12,039 ha (0.8%) of fruits & vegetables and 1,090 ha (0.4%) of cash crops.

- **Maize**

Maize was the dominant annual crop grown in Kigoma region and it had a planted area 1.08 times greater than beans, which had the second largest planted area. The areas planted with maize constitute 31.7 percent of the total area planted with annual crops. Other crops in order of their importance (based on area planted) were cassava, groundnuts, paddy, sorghum, sweet potatoes and finger millet

- **Paddy**

Paddy was the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Kigoma region during the short rainy season was 11,298. This represented 6.1% of the total crop growing households in Kigoma Region in the short rainy season.

- **Cassava**

The area planted with cassava was larger than any other root and tuber crop in Kigoma region in terms of planted area (28.7% of the total area planted with annual crops and vegetables) and it accounted for 97.0% of the area planted with roots and tubers.

- **Fruit and Vegetables**

The total production of fruit and vegetables was 5,704 tonnes. The most cultivated fruit and vegetable crop was the tomatoe. The production for this crop was 3,208 tonnes, which accounted to 56.2% of the total fruits and vegetables production, followed by cabbage (1256 tonnes, 22.0%) and onion (238 tonnes, 12.6%). The production of the other fruit and vegetable crops was relatively small.

- **Permanent Crops**

The area of smallholders planted area with permanent crops was 42,852 hectares which was 12% of the area planted with crops in the region. The most important permanent crop was banana which accounted for 47.8% of the total area planted with permanent crops followed by palm oil (24.0%) and mango (17.2%)

- **Improved Seeds**

The planted area using improved seeds was 11,216 ha which represented 4.2 percent of the total area planted with annuals. The percentage use of improved seed in the short rainy season was 6.1 percent and higher than the corresponding percentage use for the long rainy season (2.0%).

- **Use of Fertilizers**

Most annual crop growing households did not use any fertilisers. The area planted without fertilisers for annual crops was 107,921 hectares representing 74.4% of the total area planted with annual crops. Of the area planted with fertiliser application, farm yard manure was applied to 27,982 ha which represented 19.3% of the total planted area (77.4% of the area planted with fertiliser application). This was followed by compost (6,271 ha 4.3%) Inorganic fertilizers were used on a very small area and represented only 2.0 percent of the area planted with fertilizers.

- **Irrigation**

In Kigoma region, the area of annual crops and vegetables under irrigation was 7,835 ha representing 3% of the total area planted. The area under irrigation during the short rainy season was 5,532 ha accounting for 2.1 percent of the total

area under irrigation. However, the percentage of the planted area under irrigation during the long rainy season was 32.8%

Crop Storage

There were 186,533 crop growing households (95.8% of the total crop growing households) that reported storing various agricultural products in the region.

The most important stored crop was maize with 172,631 households storing 18,093 tonnes as of 1st January 2004. This was followed by beans & pulses (162,195 households and 7,788 tonnes) Paddy (1,803 households and 1,389 tonnes), and ground nuts/bambara nuts (15,702 households and 712 tonnes). The rest of the crops were stored in very small amounts.

▪ **Crop Marketing**

The number of households that reported selling crops was 167,633 which represent 86.1% of the total number of crop growing households. The percent of crop growing households selling crops was highest in Kasulu (94%) followed by Kigoma rural (92%), Kigoma urban (87%), and Kibondo (65%).

▪ **Agricultural Credit**

In Kigoma region, few agricultural households (3,403, 1.7%) accessed credit, out of which 3,211 (94%) were male-headed households and 192 (6%) were female headed households. In Kibondo and Kigoma rural only female headed households got credit for agriculture purposes, in Kasulu and Kigoma urban districts both male and female headed households' accessed credit.

▪ **Crop Extension Services**

The number of agricultural households that received crop extension was 118,407 (61% of total crop growing households in the region). Some districts had more access to extension services than others (Chart 3.106). Kigoma urban district had a relatively high proportion of households that received crop extension messages (94.7%), followed by Kigoma rural (87.9%), Kibondo (47.0%) and Kasulu (46.6%).

▪ **Soil Erosion and Water Harvesting Facilities**

The number of agricultural households that reported the presence of soil erosion and water harvesting facilities on their farms was 19,370. This number represented 10% of the total number of agricultural households in the region. The proportion of farmers with soil erosion control and water harvesting facilities was highest in Kigoma rural district (13%) followed by Kasulu (9%), Kibondo (8%), and Kigoma urban (3%).

iii) Livestock and Poultry Production

▪ **Cattle**

The total number of cattle in the region was 422,361. Cattle were the most dominant livestock type in the region followed by goats, sheep and pigs. The region had 2.5 percent of the total cattle population on the Tanzanian Mainland. The number of indigenous cattle was 421,613 head (99.8% of the total number of cattle in the region), and 748 (0.2%) were dairy breeds. There were no beef breeds.

▪ **Goats**

The number of goat-rearing households was 74,496 (38.6% of all agricultural households) with a total of 425,604 goat giving an average of 6 heads of goats per goats-rearing household.

- **Sheep**

The number of sheep-rearing-households in the region was 12,111 (6.2 percent of all agricultural households) with a total of 51,805 sheep giving an average of 4 head of sheep per sheep-rearing-households.

- **Pigs**

The number of pig-rearing households in the region was 5,221 (2.6 percent of the total agricultural households) rearing about 23,698 pigs. This gives an average of 5 pigs per pig-rearing household.

- **Chicken**

The number of households keeping chickens was 81,952, raising 797,537 chickens. This gave an average of 10 chickens per chicken-rearing household. In terms of total number of chickens in the country Kigoma ranked eighteenth out of the 21 Mainland regions.

- **Use of Draft Power**

The region has 5,071 oxen and they were found in Kigoma rural. Kigoma region has 0.2 percent of the total 2,233,927 head of oxen found on the Mainland and were used to cultivate 1,811 hectares of land.

- **Fish Farming**

The number of households involved in fish farming was 193 (0.1 percent of the total agricultural households in the region). Kasulu was the only district with households involved in fish farming.

iv) Poverty Indicators

- **Availability of Toilets**

The results show that 94.5% of all rural agricultural households used traditional pit latrines, 0.6 percent used improved pit latrines and 2.1 percent had flush toilets. Households with no toilet facilities represented 2.8 percent of the total agriculture households in the region.

- **Household Assets**

Out of all assets, the radio was the most common household assets and was owned by 58.5% of the households, followed by bicycle (44.4%), iron (12.0%), wheelbarrow (2.8%), mobile phone (0.6%), television/video (0.5%), and vehicle (0.3%) and there was no landline phone.

- **Source of Lighting Energy**

Wick lamp was the most common source of lighting energy in the region. About 78.5 percent of the total rural households used this source of energy followed by hurricane lamp (12.0%), fire wood (5.0 percent), pressure lamp (4.2 percent), fire wood 5.0 percent, mains electricity (0.2%), , solar (0.1%),

- **Energy for Cooking**

The most prevalent source of energy for cooking was firewood, which was used by 96.0 percent of all rural agricultural households. The second most common source of energy for cooking was charcoal (3.0 percent). The rest of energy sources accounted for 0.7 percent. These were crop residues (0.5 percent), living dung (0.1 percent) and mains electricity (0.1)

- **Roofing Materials**

The most used roofing material (for the main dwelling) was grass and/or leaves and was used by 61.5% of the rural agricultural households. It was followed by iron sheets (27.4%). Other roofing materials were grass/mud (8.0 percent), asbestos and concrete both had (0.5 percent), tiles (0.2 percent) and others (0.1 percent).

- **Number of Meals per Day**

About 80.5% of the households in the region took two meals per day, 16% took two meals, 3.3 percent took one meal and 0.2 percent took four meals

- **Food Security**

Households which never had problems in satisfying their food needs represented 63.4% of the total number of agricultural households in the region. Households which often experienced problems represented 3.4 percent whereas those with little problems represented 7.6 percent. About 3.9 percent of the agricultural households always faced food shortages whilst 21.7% seldom experienced food shortage problems.

- **Main Source of Cash Income**

Selling of food crops was the main cash income earning activity reported by 64.7% of all rural agricultural households. The second main cash income earning activity was casual labour (9.5 percent) followed by selling of cash crops (5.3 percent), businesses (6.0 percent) and fishing (2.3 percent), cash and remittance (2.3 percent), other income earning activities were sales of livestock (1.8 percent), employment (9.3 percent) sale of forest products (2.7percent) and sale of livestock product (0.8 percent)

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1. BACKGROUND INFORMATION

1.1 Introduction

This part of the report presents a brief description of the region by providing information on its geographical location, land area, climate, administrative set up, population and socio-economic indicators. The information is intended to provide the user of this report a general understanding of the region and its resources.

1.2 Geographical Location and Boundaries

Kigoma region lies on the western part of Tanzania along Lake Tanganyika and borders Kagera region to the north, Shinyanga region to the Northeast, Tabora region to the east and Rukwa region to the south. Kigoma region also shares borders with two neighbouring countries of Zaire to the west and Burundi to the northwest

Kigoma region is allocated at approximately 30 degrees east and 5 degrees south. It lies at an altitude between 800 and 2400 meters above sea level.

The region is divided into four districts which are Kibondo, Kasulu, Kigoma rural and Kigoma urban. The region headquarters is located in Ujiji/Kigoma urban District and has the largest port of Lake Tanganyika.

1.3 Land Area

The region has an area of 45,066 sq. kilometers. Out of this area, 37,037 (82%) sq.kms (82%) is land. Ujiji/Kigoma town is the regional headquarters as well as largest port of Lake Tanganyika.

1.4 Climate

1.4.1 Temperature

The coolest month is July (16.1 0C) and October is the hottest month (32.3 o C).

1.4.2 Rainfall

Kigoma region has two types of rain seasons namely: Long rainfall season (Masika) which starts from March to May and Short rainfall season, (Vuli) which starts from October to December the average rainfall is over 1000mm.

1.5 Population

In 2002, Kigoma had a population of 1,674,046 according to the 2002 population census

1.6 Socio - Economic Indicators

The regional Gross Domestic Product (GDP) at current prices for the year 2003 was estimated to be TShs 357,088 million with a per capita income of shillings 205,045 . The region held 14th position among regions on GDP and contributed about 3.6 percent to the national GDP.

Kigoma region has many tourist attractions such as Ujiji town, which is very famous due to Arab slave caravans from this town to the coast of Dar es Salaam. There is also a Mountain National Park called Mhale where Chimpanzees can be seen. Moreover, it is a town where the explorer Henry Stanley found Dr. David Livingstone. The region has two tourist hotels which are Hill Top Hotel and Zanzibar Hotel all of them situated within the township area.

Ujiji/Kigoma town is linked with the Dar es Salaam city by the railway line, which is about 1254 kilometres in length.

The region's main cash crops are –Tobacco and Coffee, the region is also famous for small sardines called ‘‘ Dagaa Kigoma’’ which are used as food

2 INTRODUCTION

This part of the report provides the technical and operational description of the National Sample Census of Agriculture (NSCA), carried out in the rural areas of Tanzania Mainland and Zanzibar during the 2002/03 agricultural year. It details the background and the rationale for carrying out the NSCA in 2002/03 agricultural year. It also explains the sampling procedures, designing and implementation of the data processing system.

2.1 The Rationale for Conducting the National Sample Census of Agriculture

In 2003, the Government of Tanzania launched the Agricultural Sample Census as an important part of the Poverty Monitoring Master Plan which supports the production of statistics for advocacy of effective public policy, including poverty reduction, access to services, gender, as well as the standard crop production data normally collected in an agriculture census. The census is intended to fill the information gap and support planning and policy formulation by high level decision making bodies. It is also meant to provide critical benchmark data for monitoring Agriculture Sector Development Programme (ASDP) and other agriculture and rural development programs as well as prioritising specific interventions of most agriculture and rural development programs.

Following the decentralisation of the Government's administration and planning functions, there has been a pressing need for agriculture and rural development data disaggregated at regional and district levels. The provision of district level estimates will provide essential baseline information on the state of agriculture and support decision making by the Local Government Authorities in the design of District Agricultural Development and Investment Projects (DADIPS). The increase in investment is an essential element in the national strategy for growth and reduction of poverty.

This report (Volume V) is among the 21 regional reports for the mainland. Other Census reports include the Technical Report (Volume I), crop sector at national and regional levels including Zanzibar estimates (Volume II), Livestock Report (Volume III), Smallholder Household Characteristics and Access to Natural Resources Report (Volume IV), 21 Regional Reports for the Mainland (Volume V), Large Scale Farms Report (Volume VI) and a separate report for Zanzibar (Volume VII). In order to address the specific issue of gender, a separate thematic report on gender has been published. Other thematic reports will be produced depending on the demand and availability of funds. In addition to these reports two dissemination applications have been produced to allow users to create their own tabulations, charts and maps.

The report is divided into five main sections: Background Information, Introduction, Results, Evaluation and Conclusion and Appendices. The definitions relating to all aspects of this report can be found in the questionnaire (Appendix III).

2.2 Census Objectives

The 2003 Agriculture Sample Census was designed to meet the data needs of a wide range of users down to district level including policy makers at local, regional and national levels, rural development agencies, funding institutions, researchers, Non government Organisations (NGOs), farmer organisations, etc. As a result, the dataset is both more numerous in its sample and detailed in its scope compared to previous censuses and surveys. To date this is the most detailed Agricultural Census carried out in Africa. The census was carried out in order to:

Identify structural changes if any, in the size of farm household holdings, crop and livestock production, farm input and implement use. It also seeks to determine if there are any improvements in rural infrastructure and in the level of agriculture household living conditions;

Provide benchmark data on productivity, production and agricultural practices in relation to policies and interventions promoted by the Ministry of Agriculture and Food Security and other stake holders.

Establish baseline data for the measurement of the impact of high level objectives of the Agriculture Sector Development Programme (ASDP), National Strategy for Growth and Reduction of Poverty (NSGRP) and other rural development programs and projects.

Obtain benchmark data that will be used to address specific issues such as: food security, rural poverty, gender, agro-processing, marketing, service delivery, etc.

2.3 Census Coverage and Scope

The census was conducted for both large and small scale farms. The National Sample Census of Agriculture covered a total of 3,221 selected rural villages of Tanzania Mainland out of which 215 villages were from Kigoma region.

The census covered agriculture in detail as well as many other aspects of rural development and was conducted using three types of questionnaires:

Small scale farm questionnaire

Community level questionnaire

Large scale farm questionnaire

The small scale farm questionnaire was the main census instrument and it includes questions related to crop and livestock production and practices; population demographics; access to services, resources and infrastructure; issues on poverty, gender and subsistence versus profit making production units. The main sections covered are as follows:

Identification (i.e. region, district, ward and village)

Household and holding characteristics

Household information

Land ownership/tenure

Land use

Access and use of resources

Crop and vegetable production

Agro processing and by-Products

Crop storage and marketing

On-farm investment

Access to farm inputs and implements

Use of credit for agricultural purposes

Tree farming/agro-forestry

Crop extension services

Livelihood constraints

Animal contribution to crop production

Livestock

Livestock products

Fish farming

Livestock extension

Labour use

Access to infrastructure and other services

Household facilities

The community level questionnaire was designed to collect village level data such as access and use of common resources, community tree plantation and seasonal farm gate prices.

The large scale farm questionnaire was administered to large scale farms that were either privately or corporately managed. There will be a national report on large scale farming on Tanzania Mainland.

2.4 Legal Authority of the National Sample Census of Agriculture

The NSCA 2002/03 was conducted under the legal authority of the 2000 National Bureau of Statistics Act which, among other things, makes data collected from individuals strictly confidential and to be used for statistical purposes only.

2.5 Reference Period

Two types of reference periods were used namely the agricultural year and the reference date for livestock enumeration. The agricultural year 2002/03 (that is October 2002 to September 2003) was used for the data items that are related to crop production. The reference date of enumeration for livestock and poultry count was 1st October 2003.

2.6 Census Methodology

The main focus at all stages of the census execution was on data quality and this is emphasised in this section. The main activities undertaken include:

- Census organisation
- Tabulation plan preparation

Sample design

Design of census questionnaires and other instruments.

Field pretesting of the census instruments

Training of trainers, supervisors and enumerators

Information Education and Communication (IEC) campaign

Data Collection

Field supervision and consistency checks

Data processing:

- Scanning
- ICR extraction of data
- Structure formatting application
- Batch validation application
- Manual data entry application
- Tabulation preparation using SPSS
- Table formatting and charts using Excel, map generation using Arc View and Freehand.
- Report preparation using Word and Excel.

2.6.1 Census Organization

The Census was conducted by the National Bureau of Statistics in collaboration with the sector ministries of agriculture, and the Office of the Chief Government Statistician in Zanzibar. At the national level the Census was headed by the Director General of the National Bureau of Statistics with assistance from the Director of Economic Statistics. The Planning Group, made up of staff from the National Bureau of Statistics, Department of Agricultural Statistics and three representatives from the Ministry of Agriculture and Food Security (Department of Policy and Planning), oversaw the overall operational aspects of the Census. At the regional level, implementation of census activities was overseen by the Regional Statistical Officer of NBS and the Regional Agriculture Supervisor from the Ministry of Agriculture and Food Security. At the District level, two supervisors from the President's Office, Regional Administration and Local Government (PORALG), managed the enumerators who also came from the same ministry.

Members of the Planning Group had a minimum qualification of a bachelor degree; the regional supervisors were agricultural economists, statisticians or statistical officers. The district supervisors and enumerators had diploma level qualifications in agriculture.

The Census and Surveys Technical Working Group provided support in sourcing financing, approving budget allocations and technical assistance inputs as well as monitoring the progress of the census. A Technical Committee for the census was established with members from key stakeholder organisations (i.e. NBS, sector ministries of agriculture, President's Office, Planning and Privatization (POPP), PORALG, University of Dar es Salaam (UDSM), Tanzania Food and Nutrition Centre (TFNC) and the Office of Chief Government Statistician (OCGS) in Zanzibar). The main function of the committee was to approve the proposed instruments and procedures developed by the Planning Group. It also approved the tabulations and analytical reports prepared from the Census data.

2.6.2 Tabulation Plan

The tabulation plan was developed following three user group workshops and thus reflects the information needs of the end users. It took into consideration the tabulations from previous census and surveys to allow trend analysis and comparisons.

2.6.3 Sample Design

The Mainland sample consisted of 3,221 villages. These villages were drawn from the National Master Sample (NMS) developed by the National Bureau of Statistics (NBS) to serve as a national framework for the conduct of household based surveys in the country. The National Master Sample was developed from the 2002 Population and Housing Census. In most cases, within each selected village, data was collected from a sub-sample of fifteen agricultural households. In few large villages thirty households were selected. The total Mainland sample was 48,315 agricultural households. In Zanzibar a total of 317 EAs were selected and 4,755 agricultural households were covered. Nationwide, all regions and districts were sampled with the exception of three urban districts (two from Mainland and one from Zanzibar).

In both Mainland and Zanzibar a stratified two stage sample was used. In the first stage, villages/enumeration areas (EAs)

were selected with probability proportional to the number of villages in each district. In the second stage, 15 households were selected from a list of farming households in each Village/EA using systematic random sampling.

Table 2.1 gives the sample size of households, villages and districts for Tanzania Mainland and Zanzibar.

Table 2.1: Census Sample Size

Number of	Mainland	Zanzibar	Total
Households	48,315	4,755	53,070
Villages/Eas	3,221	317	3,539
Districts	117	9	126
Regions	21	5	26

2.6.4 Questionnaire Design and Other Census Instruments

The census questionnaires were designed following user/producer meetings to ensure that the information collected was in line with their data needs. Several features were incorporated into the design of the questionnaire to increase the accuracy of the data:

Where feasible all variables were extensively coded to reduce post enumeration coding error.

The definitions for each section were printed on the opposite page so that the enumerator could easily refer to the instructions whilst interviewing the farmer.

The responses to all questions were placed in boxes printed on the questionnaire, with one box per character. This feature made it possible to use scanning and ICR technologies for data entry.

Skip patterns were used to avoid asking unnecessary questions

Each section was clearly numbered, which facilitated the use of skip patterns and provided a reference for data type coding for the programming of CPro, SPSS and the dissemination applications.

Besides the questionnaires, there were other instruments used:

Village listing forms that were used for listing households in the villages and from this list a systematic sample of 15 agricultural households were selected from each village.

Training manual which was used by the trainers for the cascade/pyramid training of supervisors and enumerators. This manual was trainers guiding document on the procedures to follow during than training

Enumerator Instruction Manual which was used as reference material.

2.6.5 Field Pre-Testing of the Census Instruments

The Questionnaire was pre-tested in five locations (Arusha, Dodoma,,Kigoma, Unguja and Pemba). This was done purposely to test the wording, flow and relevance of the questions and to finalise crop lists, questionnaire coding and manuals. In addition to this, several data collection methodologies had to be finalised, namely, livestock numbers in pastoralist communities, cut flower production, mixed cropping, use of percentages in the questionnaire and finalising skip patterns and documenting consistency checks.

2.6.6 Training of Trainers, Supervisors and Enumerators

Cascade/pyramid training techniques were employed to maintain statistical standards. The top level training was provided to 66 national and regional supervisors (3 per region plus Zanzibar). The trainers were members of the Planning Group and the trainees were from the National Bureau of Statistics and the sector ministries of agriculture. The second level training was for the district supervisors and enumerators. This training was conducted in the regions. In each region three training sessions were conducted for the district supervisors and enumerators. In addition to training in field level Census methodology and definitions, emphasis was placed on training the enumerators and supervisors in consistency checking. Tests were given to the enumerators and supervisors and the best 50 percent of the trainees were selected to administer the smallholder and community level questionnaires. This increased the number of interviews per enumerator but it also released finance to increase the number of supervisors and hence the Supervisor Enumerator Ratio. The household listing exercise was carried out by all trained enumerators.

2.6.7 Information, Education and Communication (IEC) Campaign

Information, Education and Communication (IEC) is an important aspect of any census/survey undertaking. This is due to the fact that inadequately informed and hence uncooperative citizens may jeopardize the entire census/survey. As far

as the 2002/03 Agricultural Sample Census was concerned, the main objective of the IEC program was to sensitize and mobilize Tanzanians to support, cooperate and participate in the census exercise.

Radio, television, newspapers, leaflets, t-shirts and caps were used to publicise the Sample Census. T-shirts and caps were used by the field staff and the village chairmen as official uniforms during the field work. The village chairmen helped to locate the selected households.

2.6.8 Household Listing

The household listing exercise was done in seven days. During the listing exercise, forms ACLF1 and ACLF2 were administered. The information collected included the number of fields operated by the household, the number of different types of livestock and poultry. This information was used to determine the agricultural households. From the list of agricultural households, 15 households were selected for the interview. The selection was done using the Random Number Table.

2.6.9 Data Collection

Data collection activities for the 2002/2003 Agricultural Sample Census took three months from January to March 2004. The data collection methods used during the census were by interview and no physical measurements, e.g., crop cutting and field area measurement were taken. Field work was monitored by a hierarchical system of supervisors at the top of which was the Mobile Response Team followed by the national, regional, and district supervisors.

The Mobile Response Team consisted of three principal supervisors who provided overall direction to the field operation and responded to queries arising outside the scope of the training exercise. The mobile response team consisted of the Manager of Agriculture Statistics Department, Long-term Consultant and Desk Officer for the Census. Decisions made on definitions and procedures were then communicated back to all enumerators via the national, regional and district supervisors.

District supervision and enumeration were done by staff from the President's Office, Regional Administration and Local Government (PORALG). National and regional supervisions were provided by senior staff of the National Bureau of Statistics and the sector ministries of agriculture. During the household listing exercise 3,221 extension staff were used. For the enumeration of the small holder questionnaire, 1,611 enumerators were used and additional 5 percent enumerators were held in reserve in case of drop outs during the enumeration exercise.

2.6.10 Field Supervision and Consistency Checks

Enumerators were trained to probe the respondents until they were satisfied with the responses given before they recorded them in the questionnaire. The first check of the questionnaires was done by enumerators in the field during enumeration. The second check was done by the district supervisors followed by regional and national supervisors. Supervisory visits at all levels of supervision focused on consistency checking of the questionnaires. Inconsistencies encountered were corrected, and where necessary a return visit to the respondent was made by the enumerator to obtain the correct information. Further quality control checks were made through a major post enumeration checking exercise where all questionnaires were checked for consistencies by all supervisors in the district offices.

2.6.11 Data Processing

Data processing consisted of the following processes:

Manual editing

Data entry

Data structure formatting

Batch validation

Tabulation

Illustration production

Report formatting

Manual Editing

Prior to scanning, all questionnaires underwent a manual cleaning exercise. This involved checking that the questionnaire had a full set of pages, correct identification and good handwriting. A score was given to each questionnaire based on the legibility and the completeness of enumeration. This score will be used to assess the quality of enumeration and supervision in order to select the best field staff for future censuses/surveys.

Data entry/Scanning and ICR Extraction Technologies

Scanning and ICR data capture technology was used for the small holder questionnaire. This not only increased the speed of data entry, it also increased the accuracy due to the reduction in keystroke errors. Interactive validation routines were incorporated into the ICR software to track errors during the verification process. The scanning operation was so successful that it is highly recommended that this technology be adopted for future censuses/surveys. The Census and Surveys Processing Program (CSPro) was used to enter 2,880 of small holder questionnaires that were rejected by the Intelligent Character Recognition (ICR) extraction application.

Data Structure Formatting

A program was developed in visual basic to automatically alter the structure of the output from the scanning/extraction process in order to harmonise it with the manually entered data. The program automatically checked and changed the number of digits for each variable, the record type code, the number of questionnaires in the village, the consistency of the Village Identification (ID) code and saved the data of one village in a file named after the village code.

Batch Validation

A batch validation program was developed in order to identify inconsistencies within a questionnaire. This is in addition to the interactive validation during the ICR extraction process. The procedures varied from simple range checking within each variable to more complex checking between variables. It took six months to screen, edit and validate the data from the smallholder questionnaire. After the long process of data cleaning, the results were prepared based on a pre-designed tabulation plan.

Tabulations

Statistical Package for Social Sciences (SPSS) was used to produce the Census results and Microsoft Excel was used to organize the tables and compute additional indicators.

Analysis and Report Preparation

The analysis in this report focuses on regional and district production estimates, districts comparisons and time series analysis. Microsoft Excel was used to produce charts; whereas Microsoft Word was used to compile the report.

Data quality

A great deal of emphasis was placed on data quality throughout the whole exercise from planning, questionnaire design, training, supervision, data entry, validation and cleaning/editing. As a result of this NBS believes that the Census is highly accurate and representative of what was experienced at field level during the Census year. With very few exceptions the variables in the questionnaire are within the norms for Tanzania and they follow expected time series trends when compared to historical data. Standard Errors and Coefficients of Variation for the main variables can be found in the Technical Report (Volume I).

2.7 Funding Arrangements

The Agricultural Sample Census was supported mainly by the European Union (EU) who financed most of the operational activities. Other funds for operational activities came from the Government of Tanzania, Government of Japan, United Nations Development Programme (UNDP) and other partners in the Pool Fund of the Vice President's Office (VPO). In addition to this, technical assistance was provided by the European Union (EU), Department for International Development (DFID) and Japanese International Cooperation Agency (JICA). Technical assistances were managed by Ultek Laurence Gould Consultants (ULG), Scotts Agriculture Consultancy Ltd (SAC) and the Food and Agriculture Organisation (FAO).

3. CENSUS RESULTS

This part of the report presents the census results for Kigoma region, based on the statistical data tables presented in Appendix A2. The results are presented in different forms including brief summaries, charts, condensed tables and graphs and maps in order to make it easier for the users to understand. Comparisons are made between related variables and between districts. Comparisons are also made with past censuses/surveys results such as the 1994/95 National Sample Census of Agriculture (NSCA), the 1995/96 and the 1996/97 Expanded Agricultural Surveys, the 1997/98 Integrated Agricultural Surveys, the 1998/99 District Integrated Agricultural Survey and the 1999/00 Rapid Agricultural Appraisal Survey. The results are divided into four main sections which are household characteristics, crop results, livestock results and poverty indicators. Compared to previous censuses and surveys, more effort has been placed in analyzing the results in order to formulate solid conclusions.

3.1 Household Characteristics

3.1.1 Type of Household

The number of agricultural households in Kigoma region was 195,765. The largest number of agricultural households was in Kasulu (79,396) followed by Kigoma rural (62,470), Kibondo (51,407) Kigoma Urban (2,492). The highest density of households was found in Kasulu (221km²) (Map 3.2). Most households (135,655 69.3%) were involved in growing crops only, (911, 0.5%) were rearing livestock only, and (59,040, 30.2%) were involved in crop production as well as livestock keeping. There were only (160, 0.1% pastoralist in Kigoma Region. (Chart 3.1 and Map 3.1, 3.2,3.3,3.4,3.5 and 3.6)

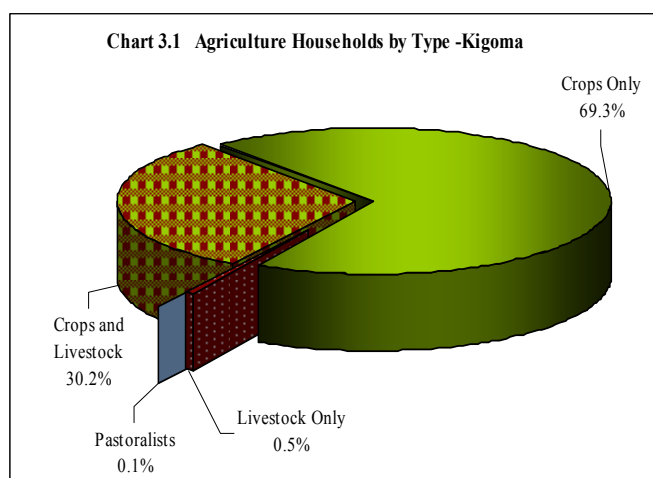


Table 3.1: The Livelihood Activities/Source of Income of the Households Ranked in Order of Importance by District

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Kibondo	1	2	4	3	6	7	5
Kasulu	1	2	3	4	6	7	5
Kigoma Rural	1	2	5	3	7	6	4
Kigoma Urban	2	3	4	1	5	6	7
Total	1	2	3	4	6	7	5

3.1.2 Livelihood Activities/Source of Income

The census results for Kigoma region indicates that most of the agricultural households ranked annual crop farming as an activity that provided most of their cash income followed by permanent crop farming, livestock keeping/herding, off farm income, tree/forest resources, remittances, fishing hunting & gathering (Table 3.1)

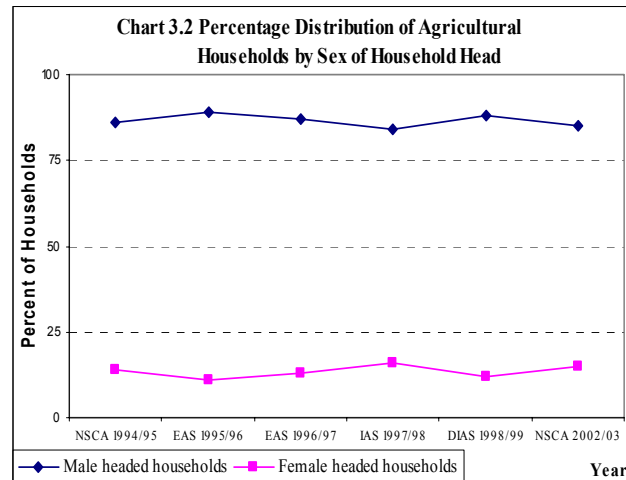
Kigoma Urban district was the district where annual crop farming was not the most important livelihood activity and was replaced by permanent crop farming.

3.1.3 Sex and Age of Heads of Households

The number of male-headed agriculture households in Kigoma region was 167,324 (85.5% of the total regional agricultural households) whilst the female-headed households it were 28,442 (14.5% of the total regional agricultural households). The mean age of household heads was 44 years

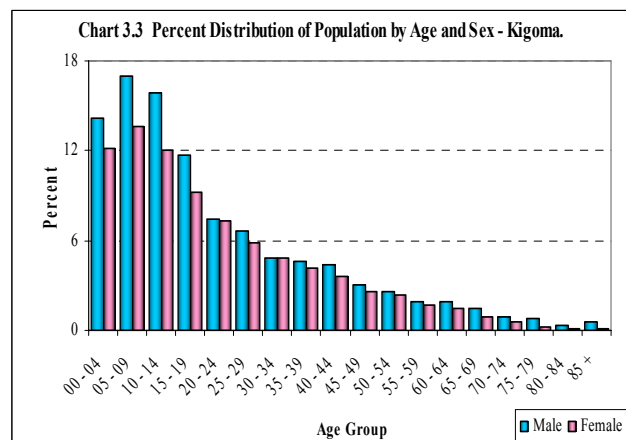
(43 years for male heads and 49 years for female heads) (Chart 3.2)

The percentage trend for six censuses/surveys years shows that there has not been any significant change in the distribution of agricultural households between male and female headed households.



3.1.4 Number and Age of Household Members

Kigoma region had a total rural agricultural Population of 1,076,658 of which 528,004, (49%) were males and (548,654 51%) were females. Whereas age group 0-14 constituted 46.3 percent of the total rural agricultural population, age group 15-64 (active population) was 50.5 percent. Kigoma region had an average household size of 5 with Kibondo and Kasulu district having the lowest households' size of 5. (Chart 3.3)

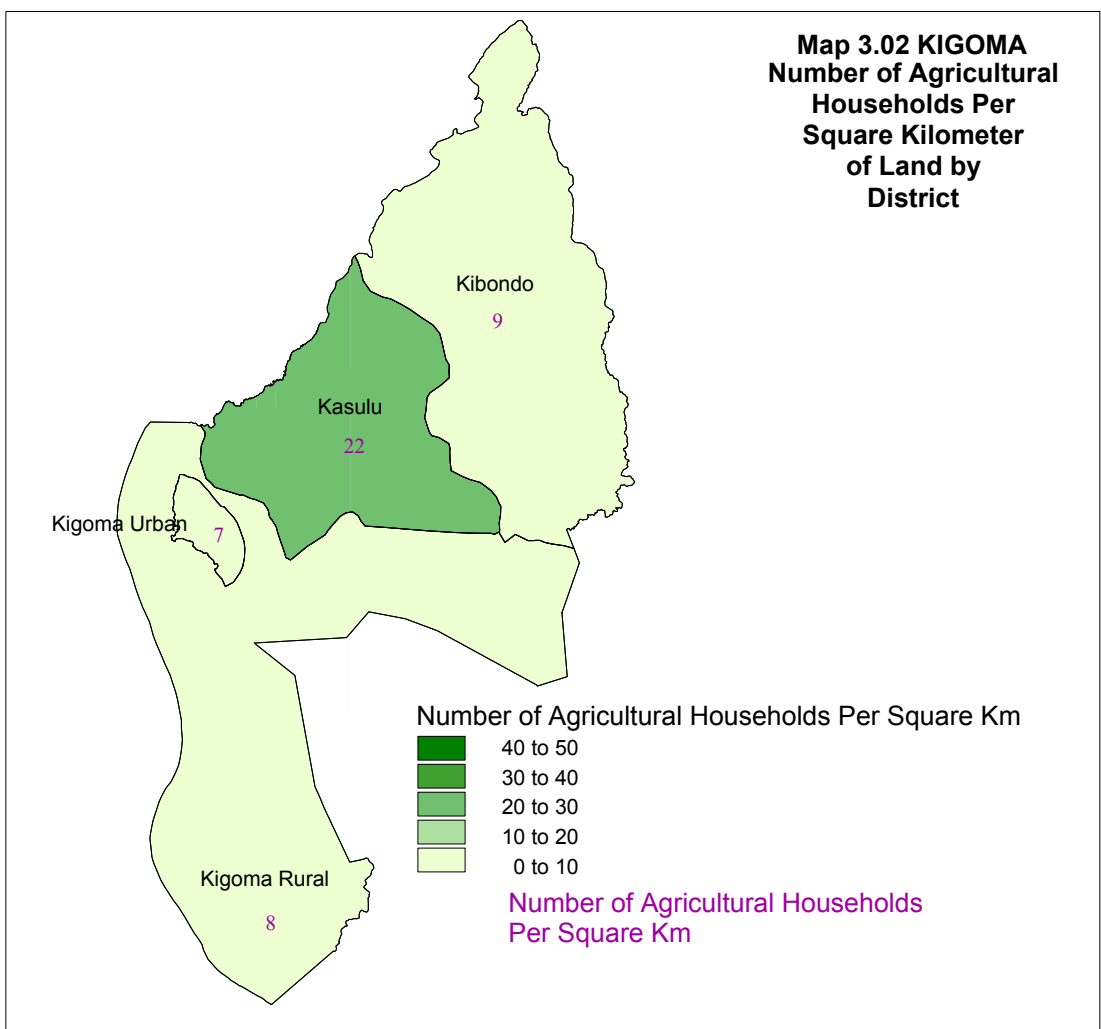
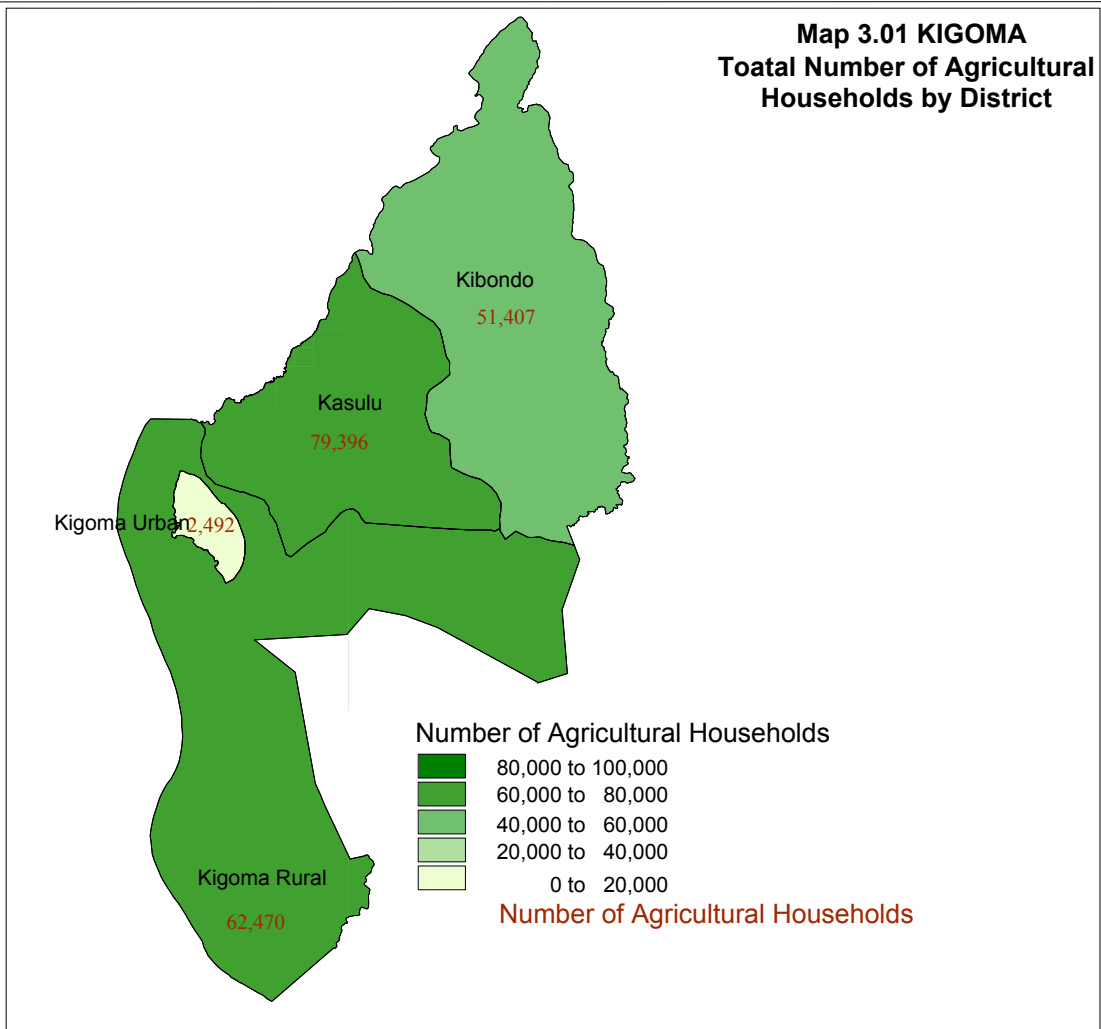


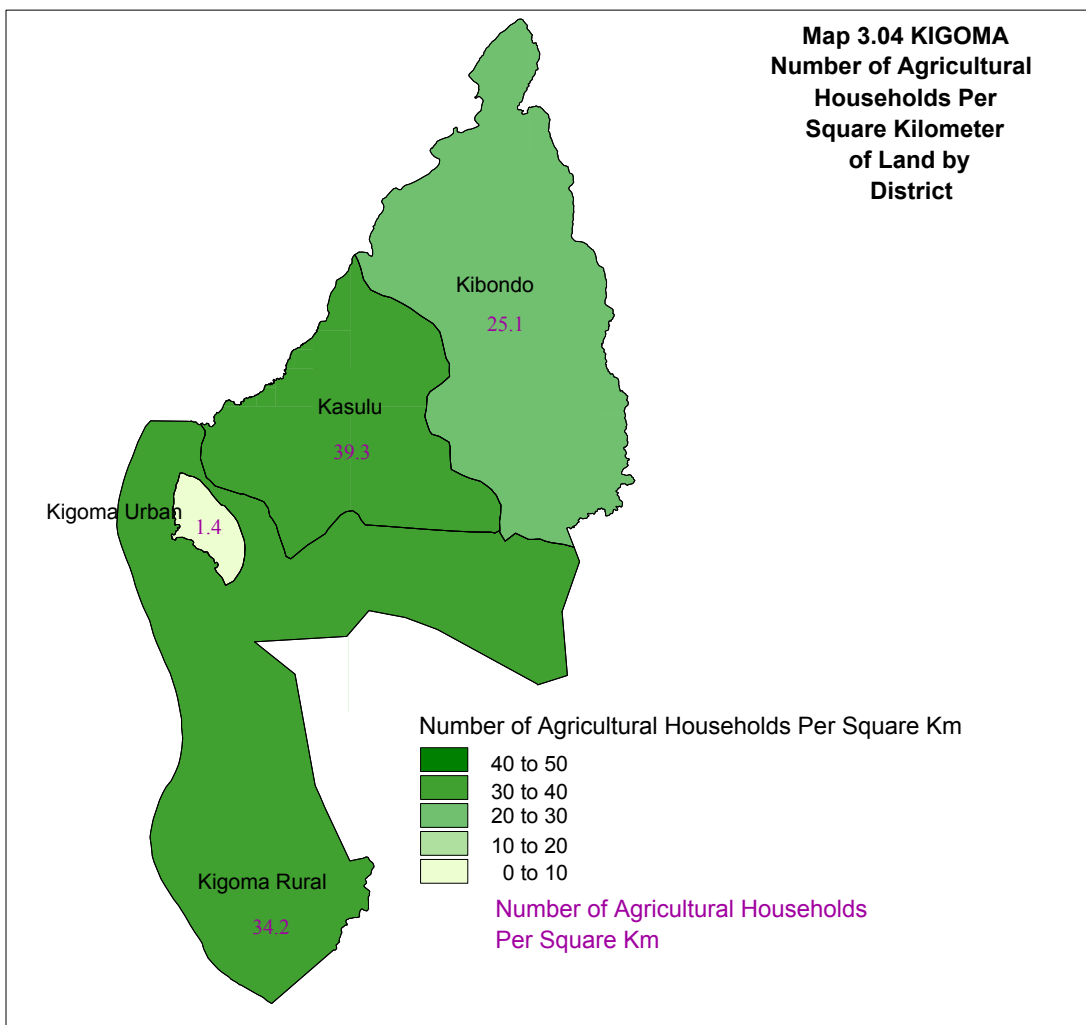
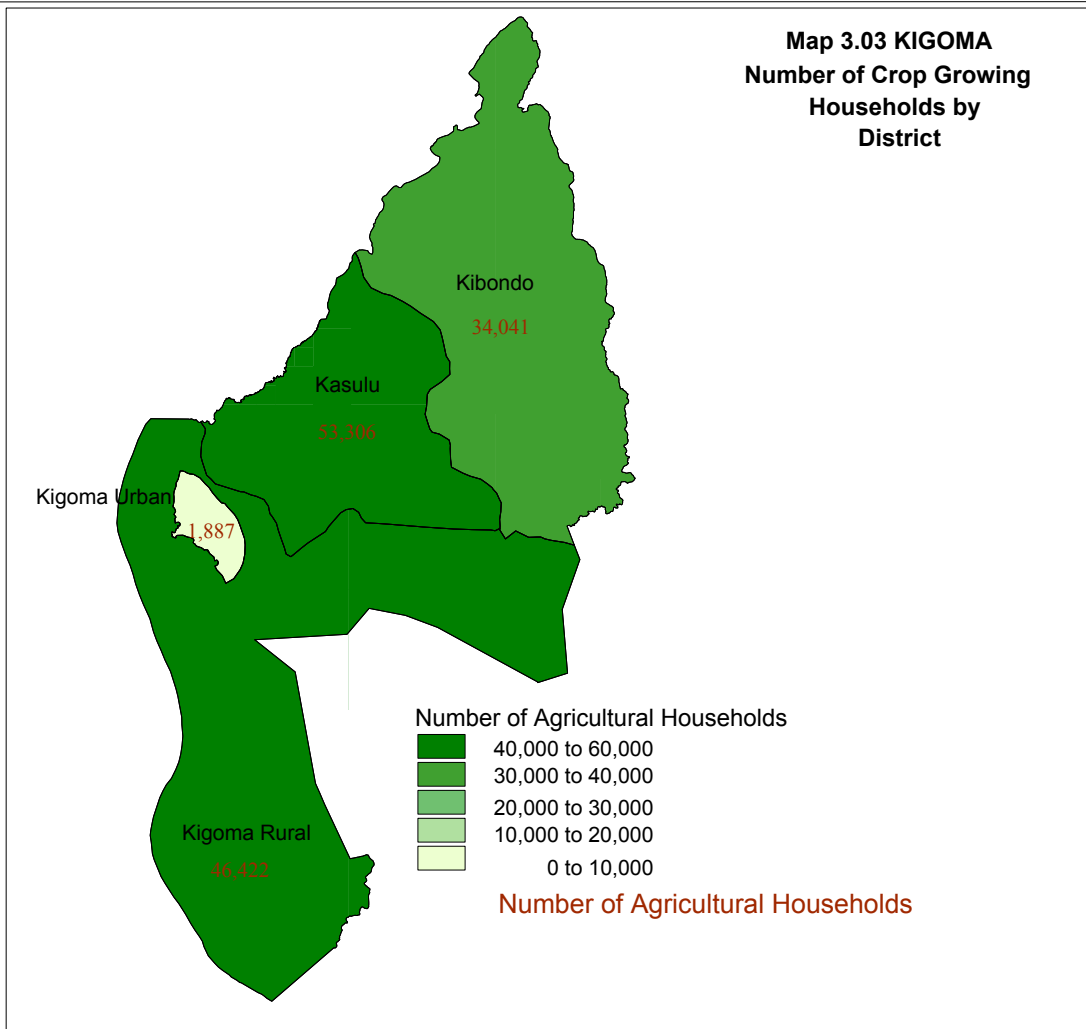
3.1.5 Level of Education

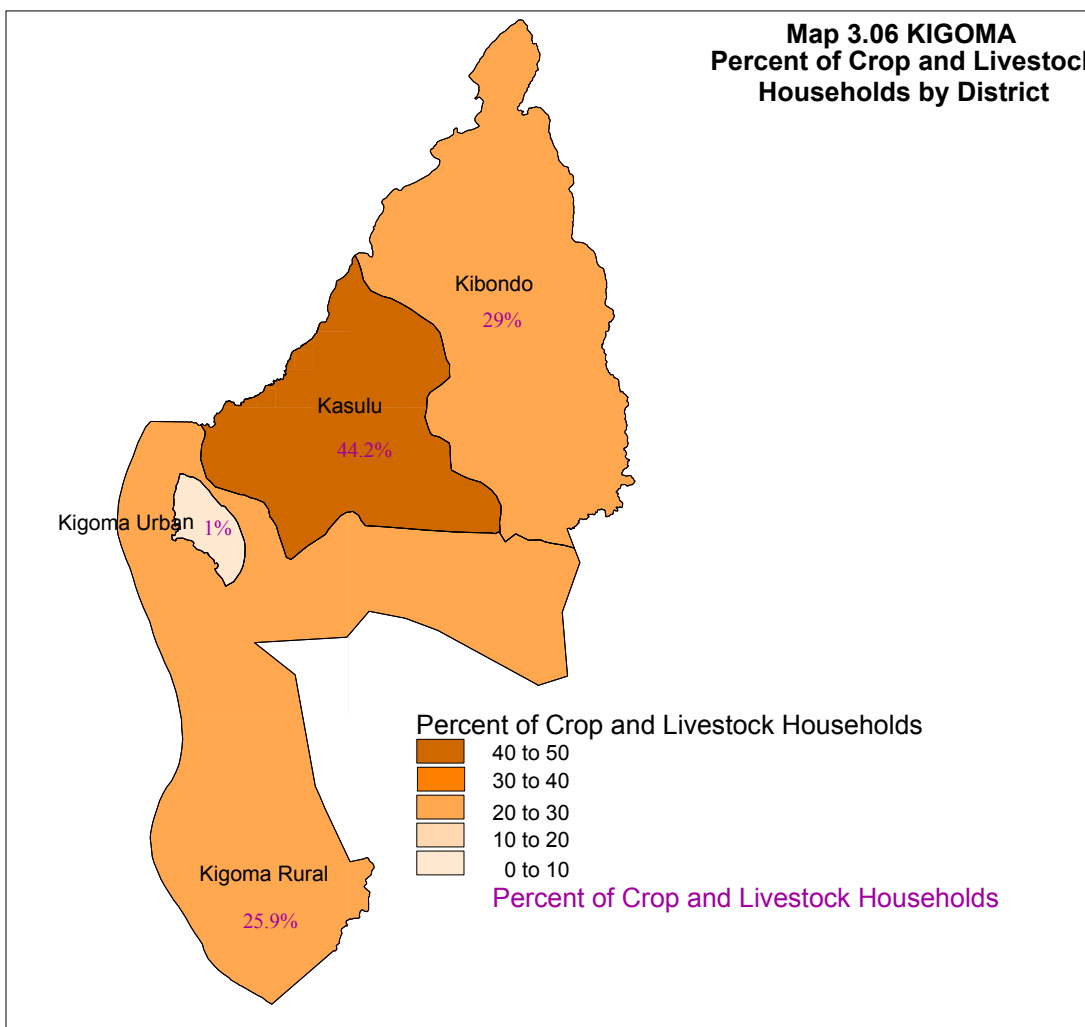
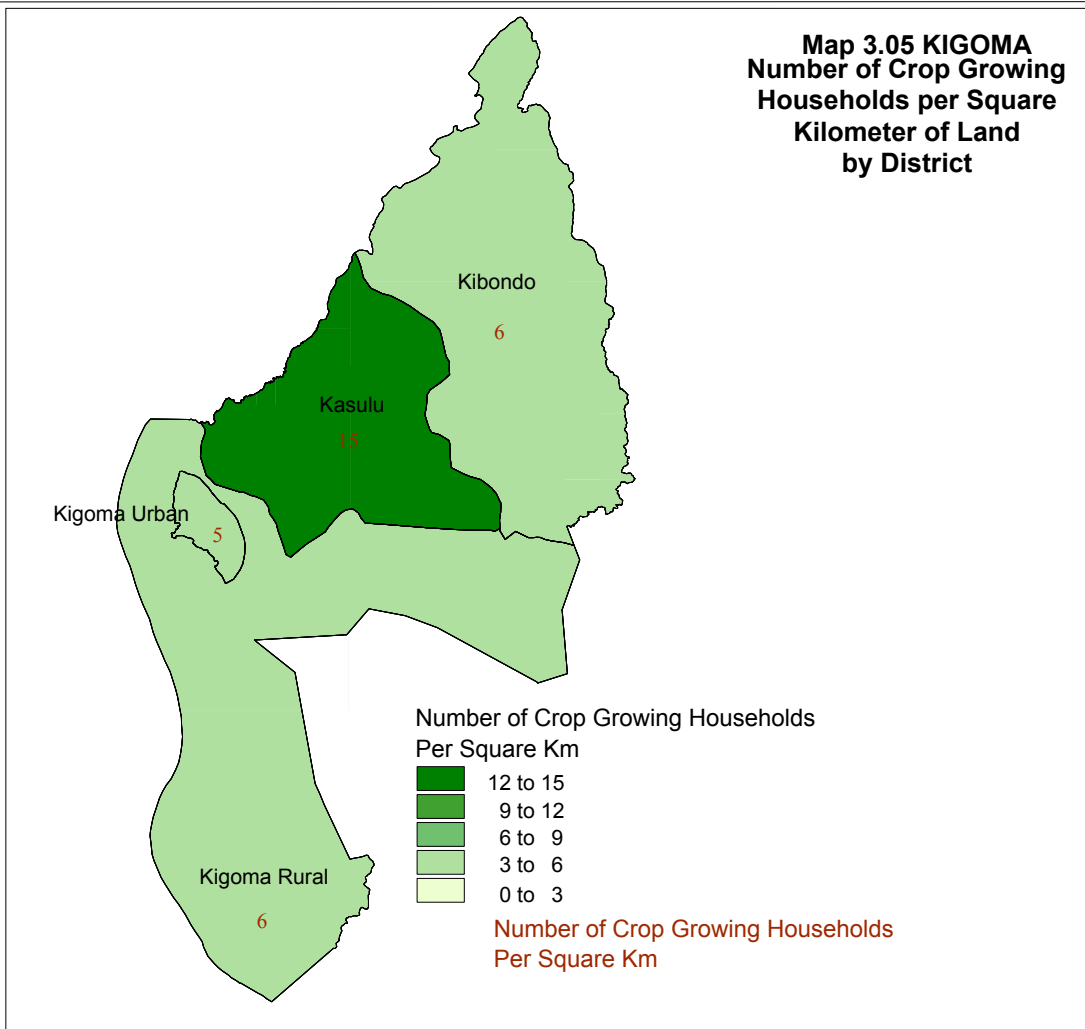
In order to obtain information on the level of education, information on literacy and education attainment were obtained for all persons aged five years and above in all households.

Literacy

The information on literacy level for family members aged five years and above was obtained by asking individual private households if their respective family members could read and write in Kiswahili only, English only, both English and Swahili or in any other language. Literacy is based on the ability to read and write Swahili, English or both.



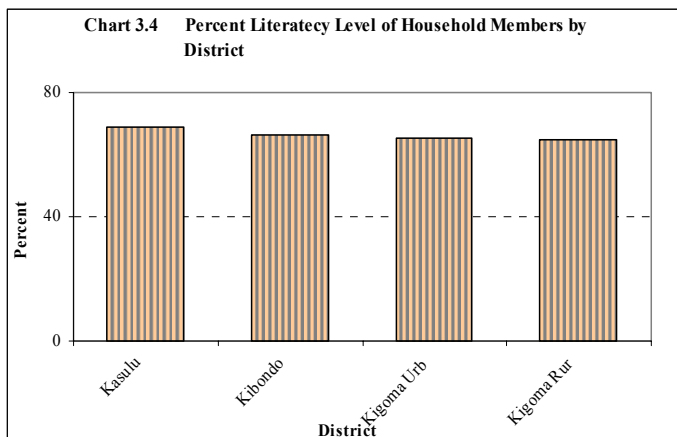




Literacy Level for Household Members

Kigoma region had a total literacy rate of 66.8 percent.

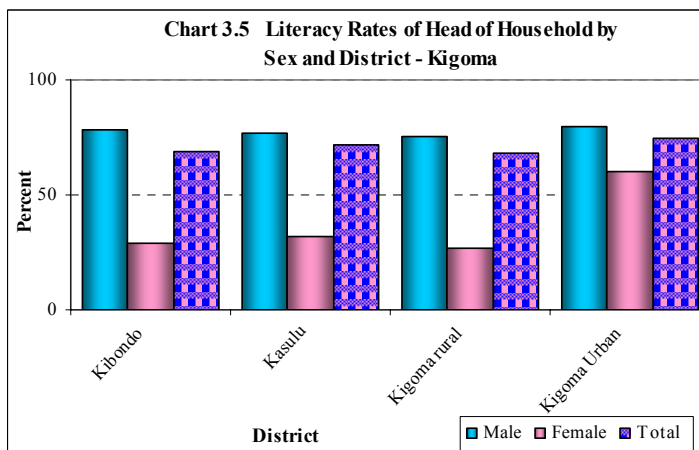
The highest literacy rate was found in Kasulu district (69.0%) followed by Kibondo district (66.2%), Kigoma urban district (65.5%) and lastly Kigoma rural district (64.87) thus Kigoma urban and Kigoma rural had the lowest literacy rates.



Literacy Rates for Heads of Households

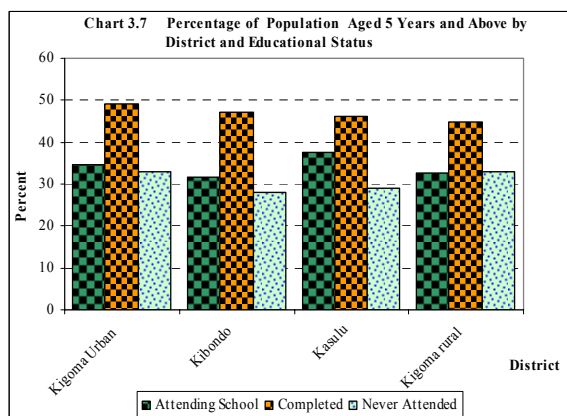
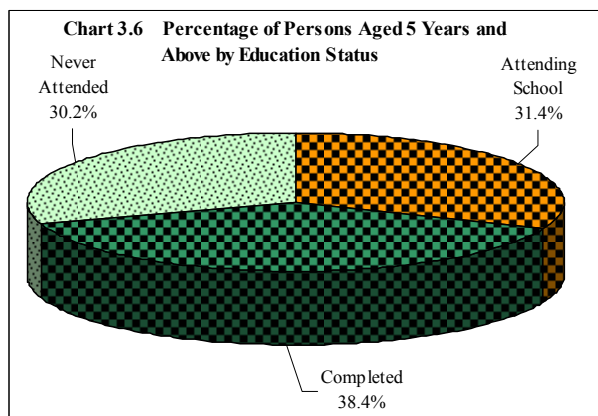
The literacy rate for the heads of households in the region was 69.9 percent. The literacy rate for the male heads was 76.7% and that of female heads of households was 29.7%. Literacy rate of male heads was higher than that of female heads in all districts.

The district with the highest literacy rate amongst heads of households was Kigoma urban (73.3%) followed by Kasulu (71.1%), Kibondo (69.9%) and Kigoma rural (67.7%). (Chart 3.5).



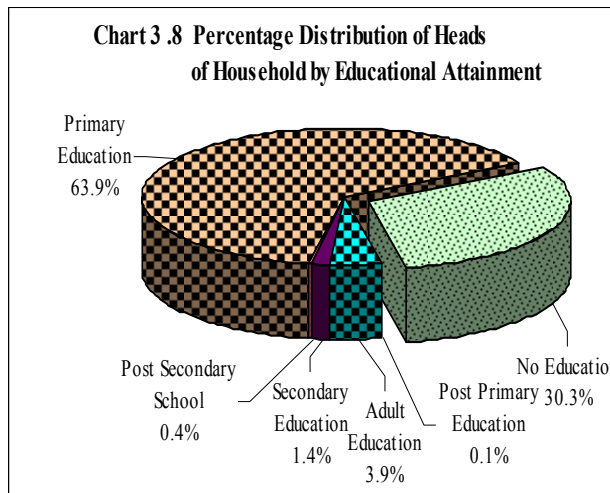
Educational Status

Information on educational status was collected from individual agricultural households. The results show that 38.4 percent of the population aged 5 years and above in agricultural households in the region had completed different levels of education and 31.4 percent were still attending school. Those who have never attended school were 30.2 percent (Chart 3.6).



Agricultural households in Kigoma Urban district had the highest percentage (73.3%) of population aged 5 years and above who had completed different levels of education. This was followed by Kasulu district (71.1%), Kibondo district (69.9%) and Kigoma rural district with the lowest percentage of 67.7.

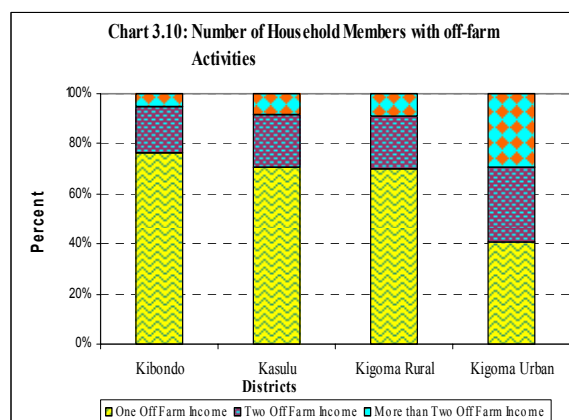
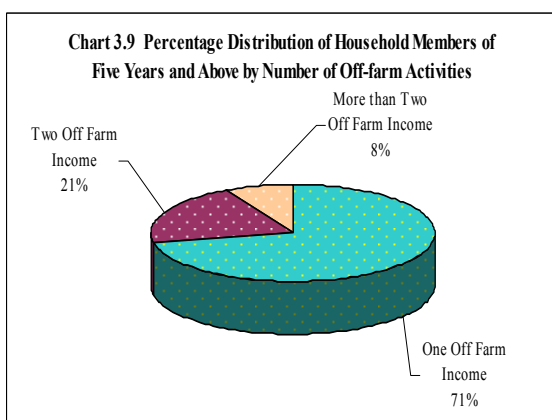
The number of heads of agricultural households with formal education in Kigoma region was 128,834 (65.8%), those without formal education were 59,307 (30.3%) and those with only adult education were 7,624 (3.9%). The majority of heads of agricultural households (63.9%) had primary level education whereas only 0.4% had post secondary education (Chart 3.8).



With regard to the heads of agricultural households with primary or secondary education in Kigoma region, Kibondo district had the highest percentages (66.4% for primary and 1.3% for secondary). It was followed by Kasulu (65.9% primary and 1.5% secondary), Kigoma Urban (62.6% primary and 2.7% secondary) and Kigoma rural (59.5% primary and 1.2% secondary).

3.1.6 Off-farm Income

Off-farm income refers to cash generated from non-agricultural activities. This can be either from permanent employment (i.e., government, private sector or other), temporary employment or labourers. It also includes cash generated from working on farms belonging to other farmers. Off-farm income is important amongst agriculture households in Kigoma with 66.4% of households with at least one household member engaged in off-farm income generating activities, 93,401 households (71.9%) had only one member aged 5 years and above involved in off-farm income generating activities 26,675 households (20.5%) had two members involved in off-farm income generating activities and 9,848 households (7.6%) had more than two members involved in off-farm income generating activities.



The districts with highest percentage of households with off-farm income was Kigoma urban followed by Kigoma rural, Kibondo and Kasulu. The district with the highest percent of agriculture households with more than two members

with off-farm income was Kigoma urban (23%), other districts had very few households with more than two members having off-farm income.

3.2 Land Use

Land area and planted area are different types of area measurements. Land area refers to the physical area of land and is the same regardless of the number of crops planted on it in one year. Planted area is the total of all areas planted with crops in a year and the areas are summed if there were more than one crop on the same year. A number of terms are used in this section which requires defining for clarification as follows:

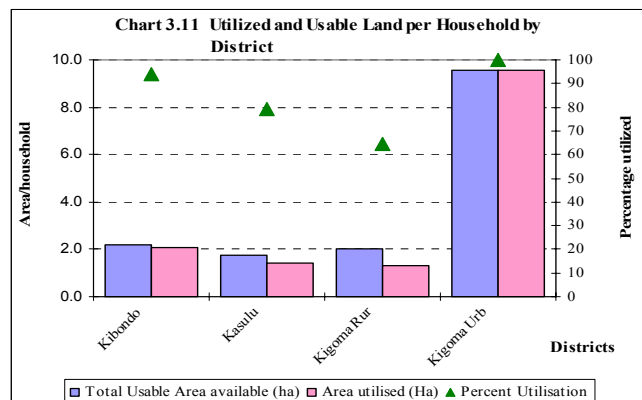
Land available refers to the area of land that had been allocated to smallholders through customary law, official title or other forms of ownership. Land available does NOT mean the total area of land that is designated as agricultural land in the country; Instead it is the land that is available to smallholders given the location of villages and lack of access to more remote parcels of unused through designated of agricultural land.

Usable land refers to the available land minus the land that cannot be used e.g. bare rock, shallow soils, steep slopes, swamp areas etc. It does however include un-cleared bush, Utilised land refers to the land that was used during the year.

3.2.1 Area of Land Utilised

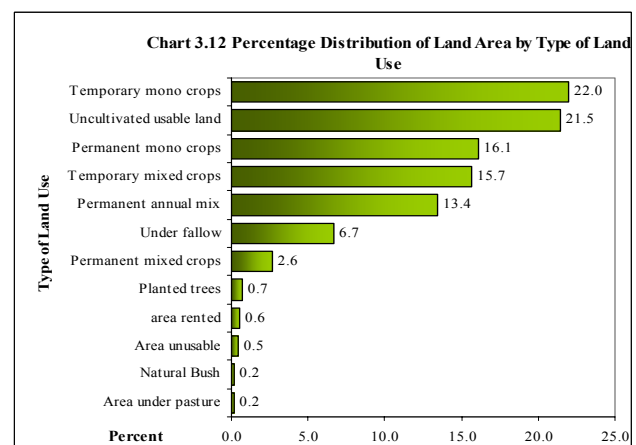
The total area of land available to smallholders was 373,576 ha, including 1,738 of unusable land. At Regional level the average land area utilised for agriculture per household was only 3.1 ha.

This figure is below to the national average which was estimated at 2.0 hectares. The percent utilized of the land available to smallholders was 71%. There were large differences in land utilization per household between districts with Kigoma urban utilizing 9.6 ha per household. The smallest land area utilised per household was found in Kigoma rural (1.3ha). The percentage utilized of the usable land per household is highest in Kigoma urban (100%) and lowest in Kasulu where 79% of the total land available to smallholders was utilised and only 19.7% of usable land available to smallholders was not used (Chart 3.11 and Map 3.7).



3.2.2 Types of Land Use

The area of land under temporary mono crops was 82,089 hectares (22.0% of the total land available to smallholders in Kigoma), followed by area of uncultivated usable land (80,144 ha, 21.5%), area under permanent mono crops (60,037 ha, 16.1%), area under temporary mixed crops (58,605 ha, 15.7%), area under permanent annual mix (50,073 ha, 13.4%), under



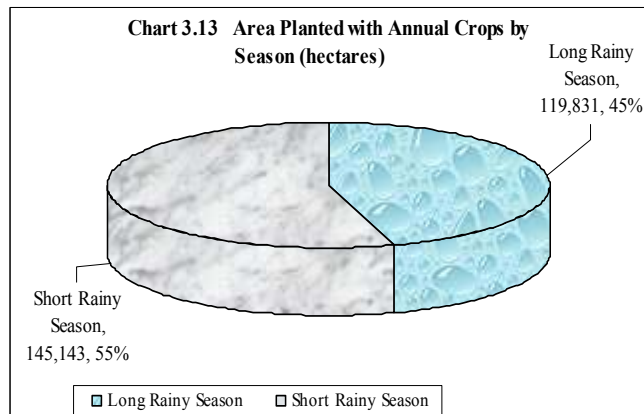
fallow (24,995 ha, 6.7%), area under permanent mixed crops (9,865 ha, 2.6%), (planted trees 2744 ha, 0.7%), area rented (2,076 ha, 0.5%), Area unsuble (1,738 ha, 0.5%), natural bush (643 ha, 0.2%), area under pasture (569 ha, 0.2%)

3.3 Annual Crops and Vegetable Production

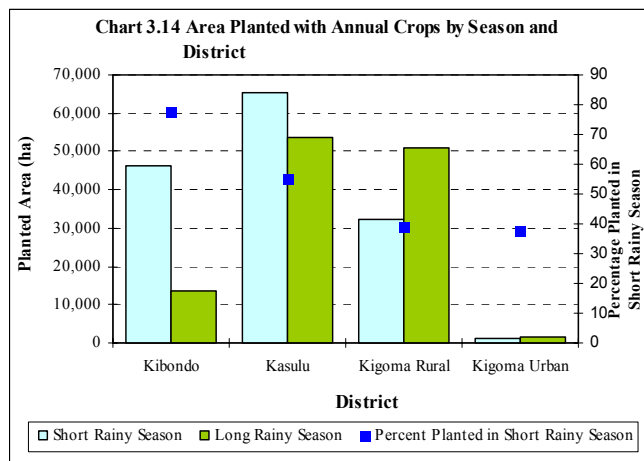
Kigoma region has two rainy seasons, which are the short rainy season (October to December) and the long rainy season (March to May). The quantity of crops produced in both seasons will be used as a base for comparison with the past surveys and censuses.

3.3.1 Area Planted

The area planted with annual crops and vegetables was 264,974 hectares out of which 145,143 hectares (55%) were planted during short rainy season and 119,831 hectares (45%) during long rainy season. The average areas planted per household during the short and long rainy seasons were 0.8 ha and 1.0 ha respectively (Chart 3.13).

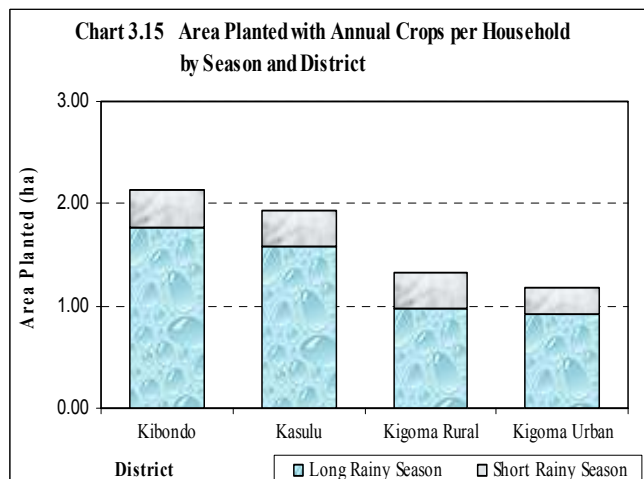


The district with the largest area planted for both two seasons was Kasulu while the district with the smallest area planted was Kigoma urban and the percentage planted during short rainy season was highest in Kibondo district (77%), followed by Kasulu (55%), Kigoma rural (39%) and Kigoma urban (37%) (Chart 3.14 and Map 3.8).



The planted area occupied by cereals was 94,282 ha, (35.6 %of the total area planted with annuals). This was followed by root and tubers 78,510 hectares, (29.6%), pulses 77,848 hectares, (29.5%), oil seeds 11,202 hectares, (4.2%), fruits and vegetables (2,039 hectares (0.8%) and cash crops 1,090 (0.4%)

The average area planted per household during the long rainy season in Kigoma region was 1.4 hectares, however, there were small district differences. Kigoma rural had the largest planted area per household (0.4 ha) followed by Kasulu (0.42 ha), Kigoma urban (0.4) and Kibondo had (0.3 ha.) In Kibondo the area planted per household in the short rainy season represents 77 percent of the total planted area per household,



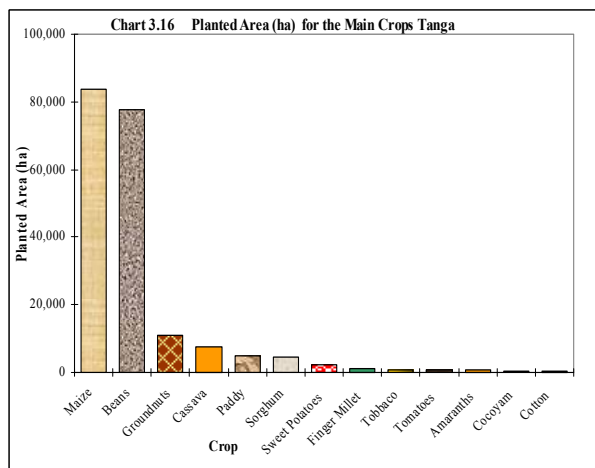
whereas in Kigoma urban the corresponding figure is 37 per cent. (Chart 3.15 and Map 3.9).

Analysis of the Most Important Crops

Results on crop production are presented in two different sections. The first section compares the importance of all crops regardless of whether they are annual or permanent. The second section contains a more detailed analysis on production based on crop types.

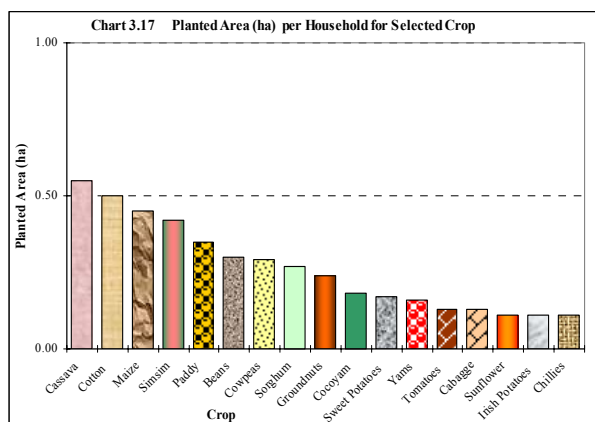
3.3.2 Crop Importance

Maize was the dominant annual crop grown in Kigoma region and it had a planted area 83,896 ha, followed by beans which had the second largest planted area of 77,486 ha. Of the area planted with annuals, maize constitutes 31.7. Other crops in order of their importance (based on area planted) were, maize, beans, groundnuts, cassava, paddy, sorghum, sweetpotatoes, finger millet, tobacco, amaranths, cocoyams and cotton (Chart 3.16). Households that grow cassava, cotton, maize, simsim, paddy and beans have larger planted areas per household than other crops (Chart 3.16).

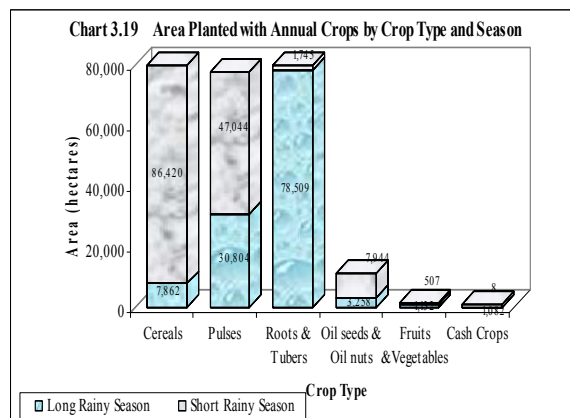
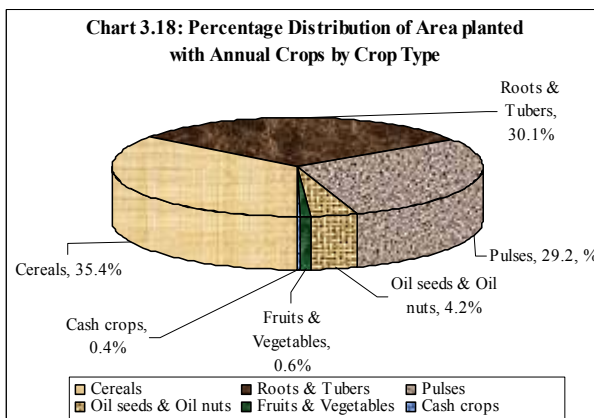


3.3.3 Crop Types

Cereals are the main crops grown in Kigoma region. The area planted with cereals was 94,282 ha (35.6 % of the total area planted with annual crops), followed by root & tubers with 78,510 ha (29.6%), pulses 77,848 ha (29.5%), oilseeds & oil nuts 11,202 ha (4.2%) fruits & vegetables 2,039 ha (0.8%) and cash crops had got the least planted area of about 1090 ha (0.4%), (Chart 3.17).



Cereals and root and tubers are the dominant crops and other crop types are of minor importance in comparison. There is difference in the proportions of the different crop types grown between seasons and because short rainy season production was very small compared to long rainy season especial for cereal and it is inappropriate to make detailed comparisons between the two seasons (Chart 3.18).



3.3.4 Cereal Crop Production

The total production of cereals was 119,398 tonnes. Maize was the dominant cereal crop at 106,175 tonnes which was (88.9%) of total cereal crops produced, followed by paddy 7,860 tonnes (6.6 %) sorghum 4,530 tonnes (3.8%) , finger millet 742 tonnes (0.6 %) and bulrush millet 71 tonnes (0.05 %), (Map 3.10).

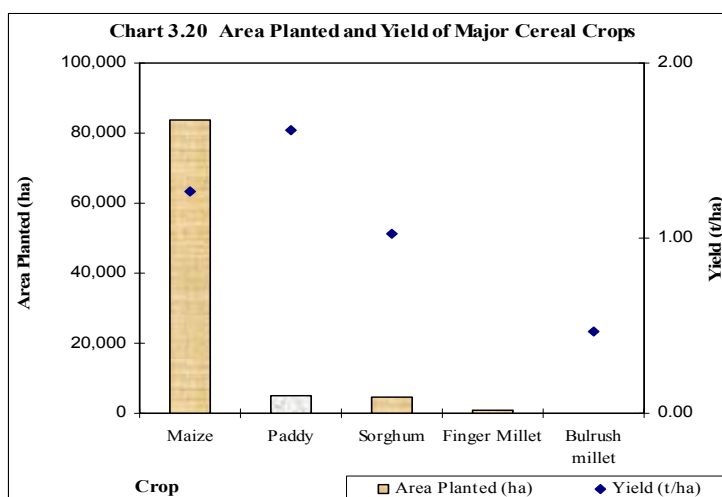
Table 3.2: Area, Production and Yield of Cereal Crops by Season

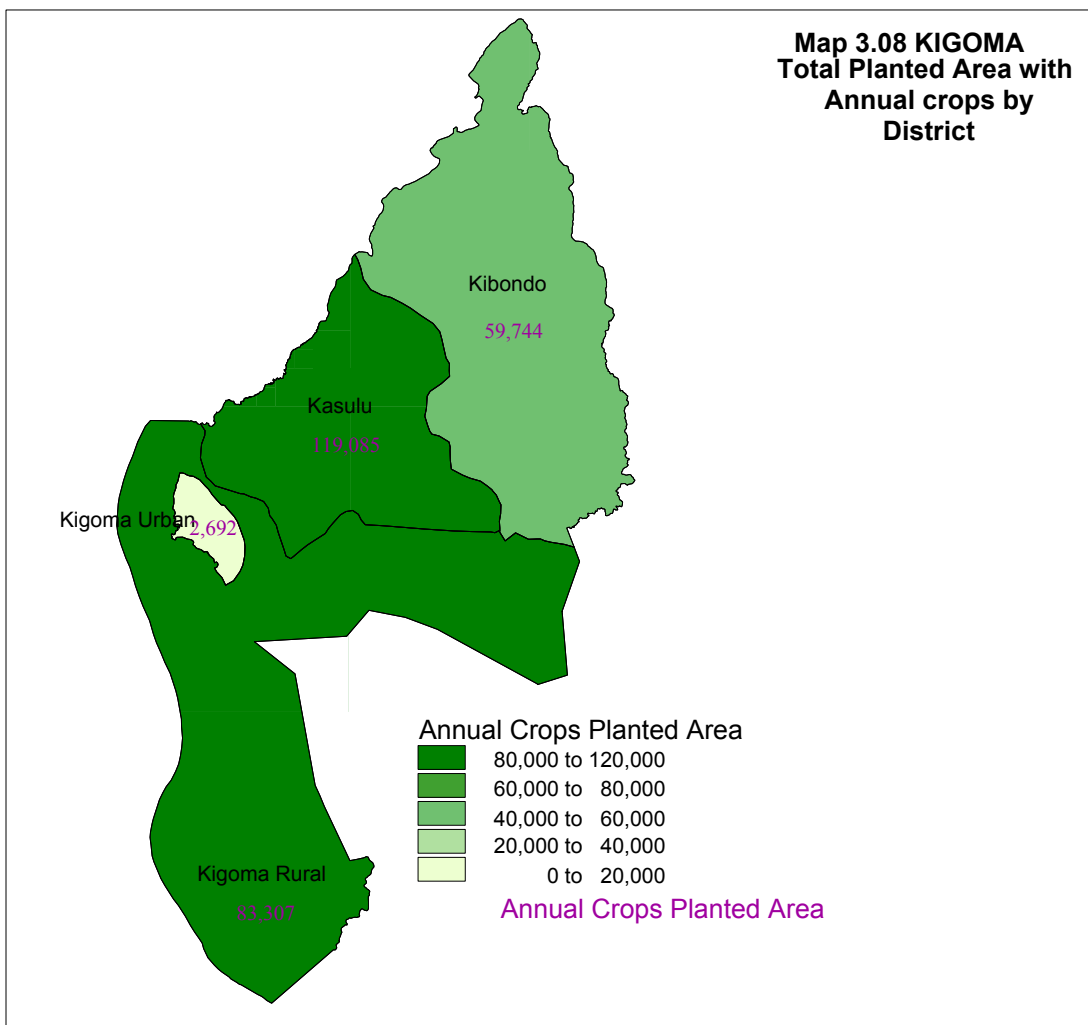
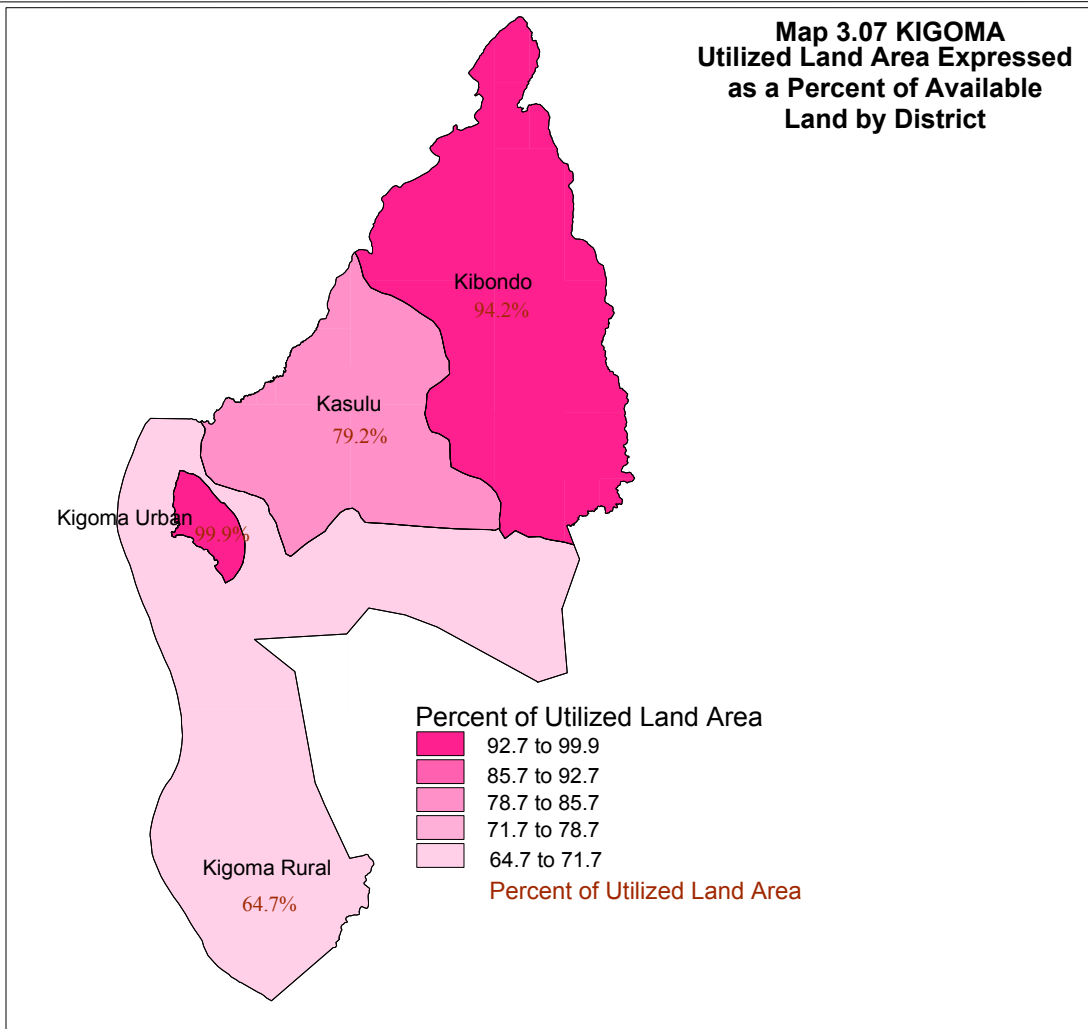
Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Maize	77,797	98,592	1,267	6,099	7,583	1,243	83,896	106,175	1266
Paddy	4,235	6,820	1,610	620	1,040	1,679	4,855	7,860	1619
Sorghum	3,260	2,890	886	1,144	1,640	1,434	4,404	4,530	1029
Finger Millet	1,074	762	709	0	0	0	1,074	762	709
Bulrush Millet	53	71	1,340	0	0	0	53	71	1340
Total	86,419	109,135		7,863	10,263		94,282	119,398	

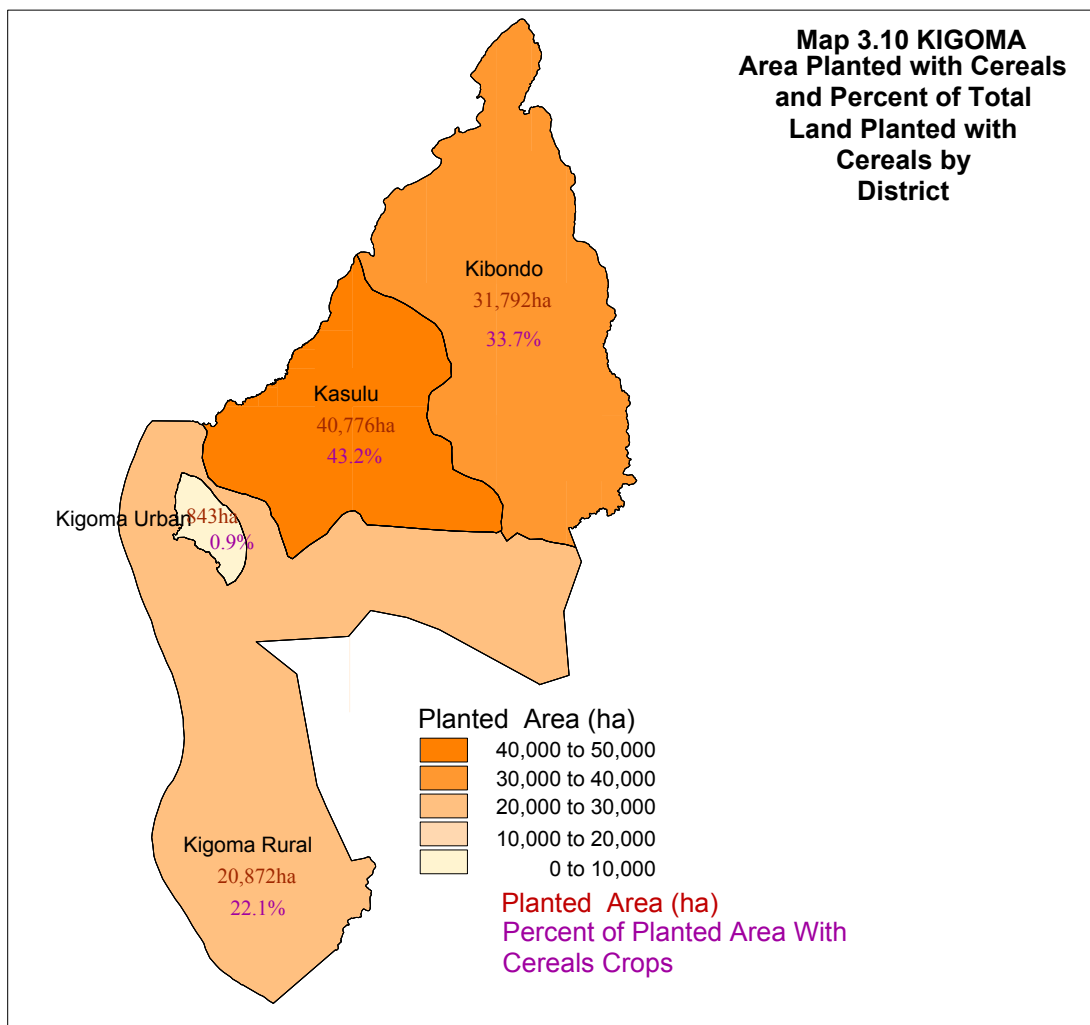
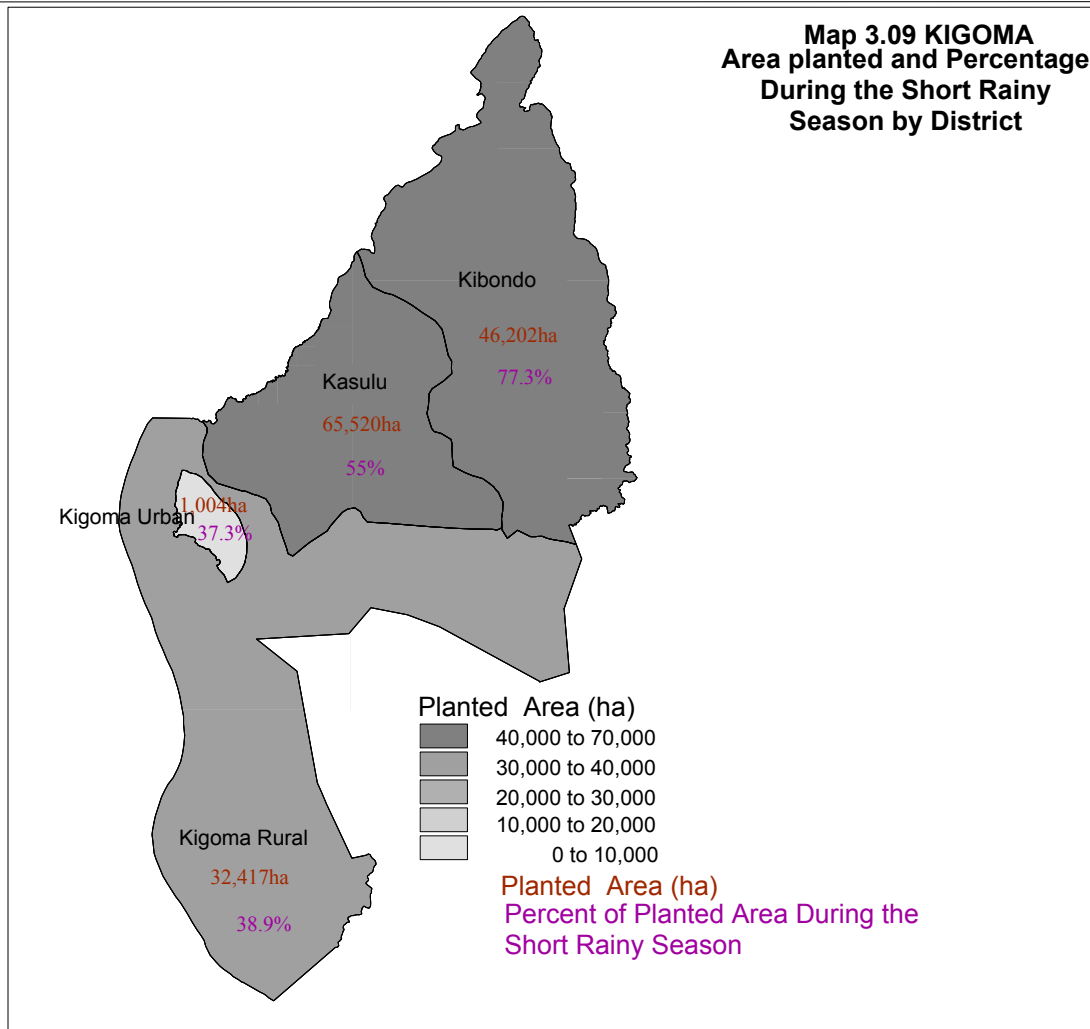
The total area planted with cereals was 94,282 ha out of which 86,419 ha (91.7%) were planted in short rainy season and 7,863 ha (8.3%) were planted during the long rainy season. The long rainy season accounted for 8.6 percent of the total cereals produced in both seasons. The area planted with maize during the short rainy season was 90.0% of the total area planted with cereals in that season followed by paddy (4.5%) and sorghum (3.8%), finger millet (1.2%) and bulrush millet (0.1%) (Table 3.2).

The area planted with maize was dominant and it represented 89.0% of the total area planted with cereal crops, was followed by paddy (5.1%), sorghum (4.7%), finger millet (1.1%) and bulrush millet with (0.1%)..

The yield of paddy was 1,619 kg/ha, followed by bulrush millet (1340 kg/ha), maize (1266 kg/ha), sorghum (1029 kg/ha) and finger millet (709 kg/ha)





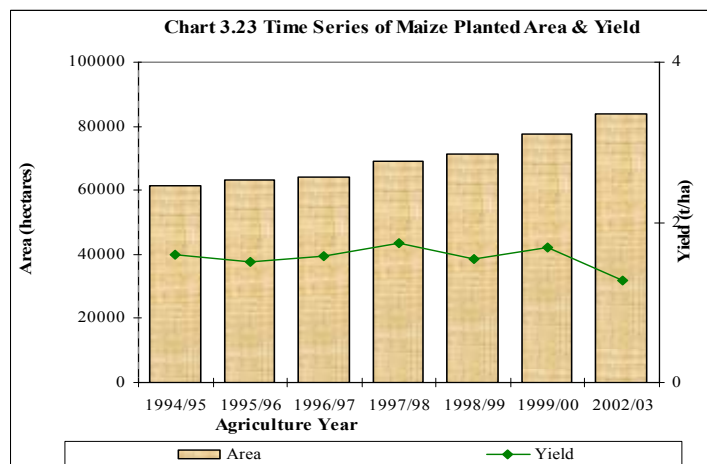
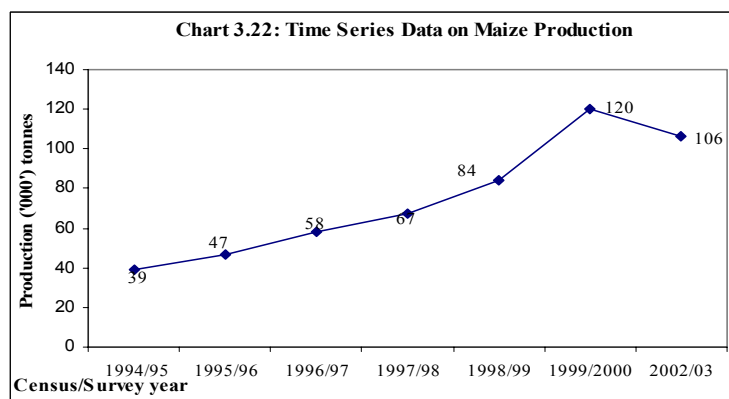
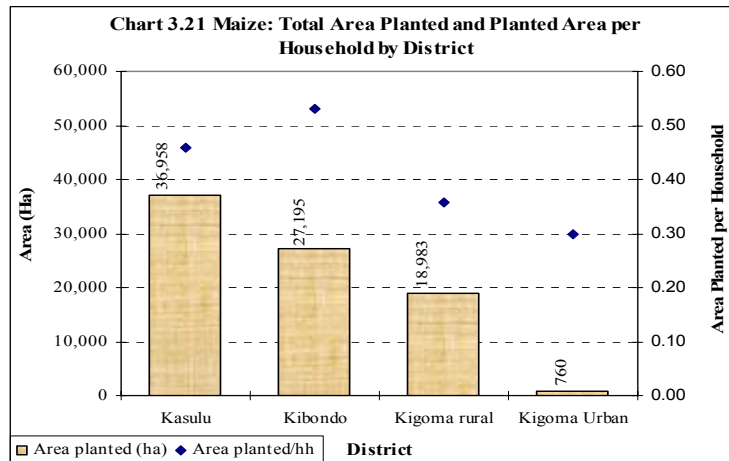


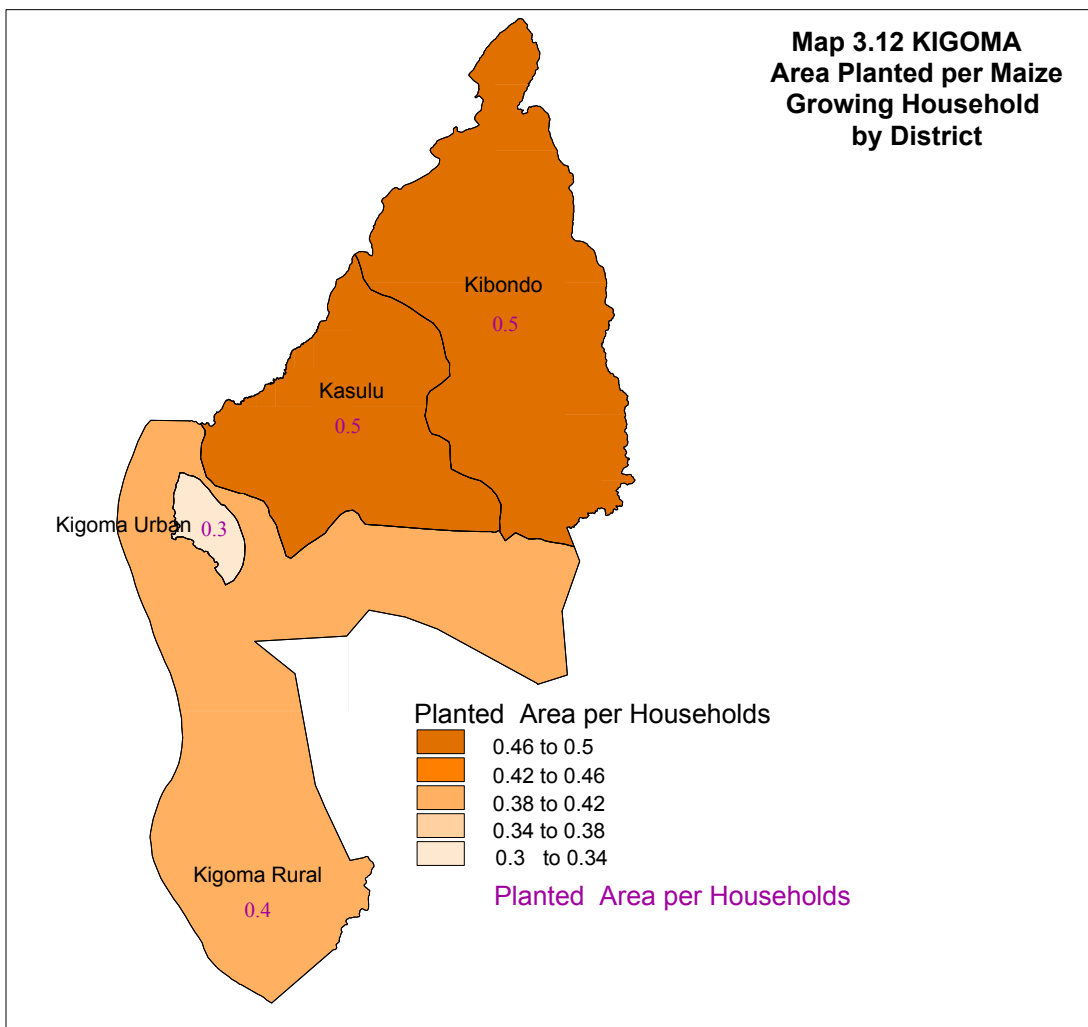
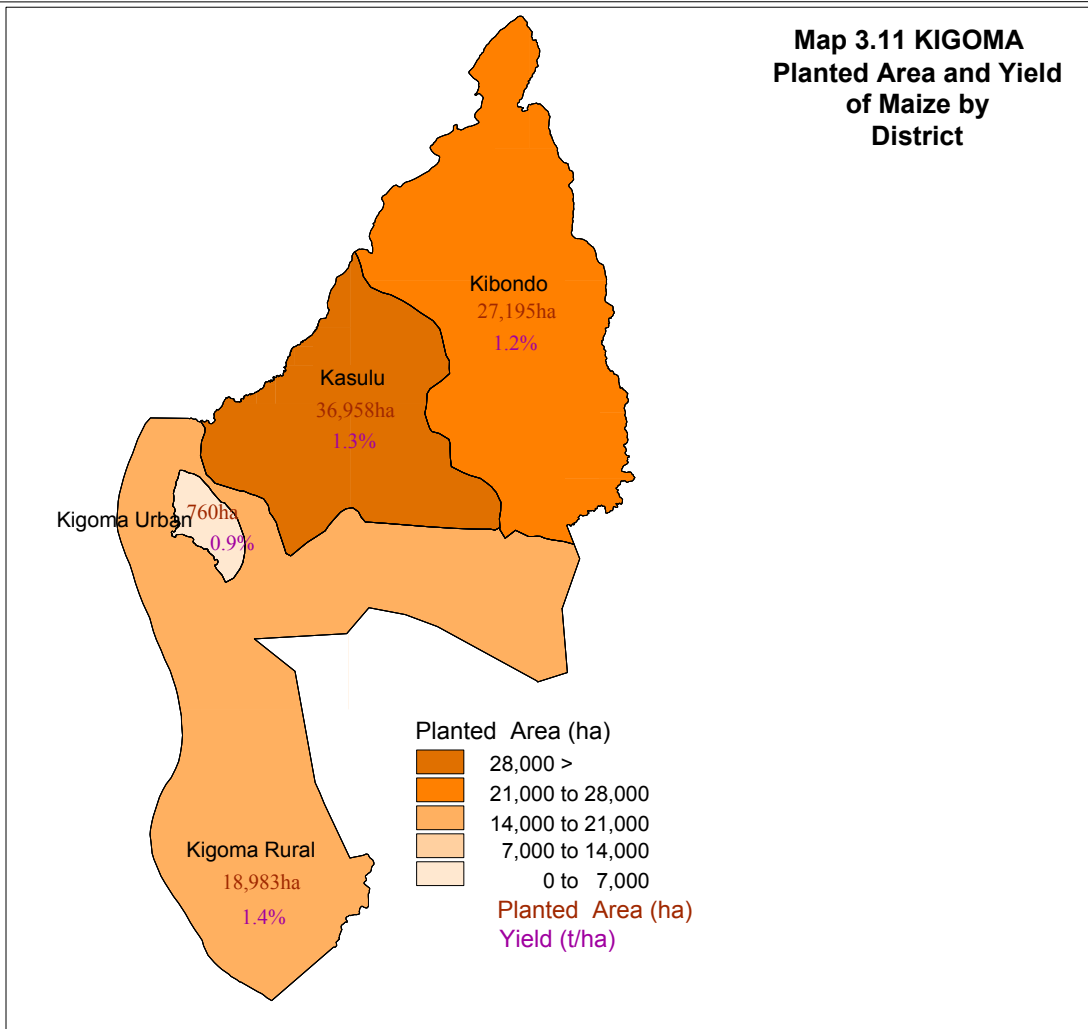
3.3.4.1 Maize

Maize dominated the production of cereal crops in the region. The number of households growing maize in Kigoma region during the short rainy season was 168,082 (91.5% of the total annual crops growing households in the region during the short rainy season). The total production of maize was 106,175 tonnes from a planted area of 83,896 hectares resulting in a yield of 1.3 t/ha.

(Chart 3.22 Map 3.11) gives maize production trend (in thousand metric tonnes) for the combined long and short rainy seasons. There was a continuous increase in maize production over the five year period from 1995 to 2000 followed by a drop in production from 120,000 tonnes to 106,000 tones in 2002..

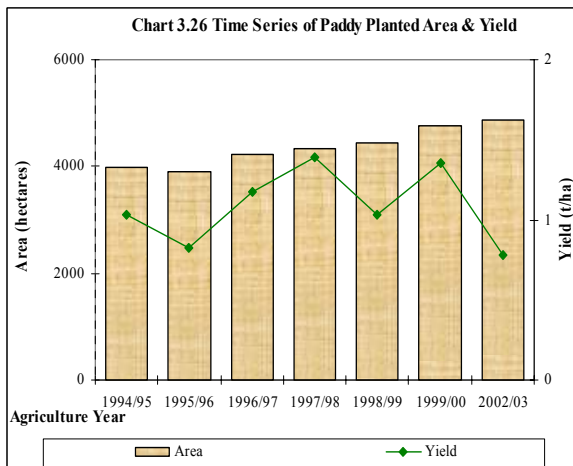
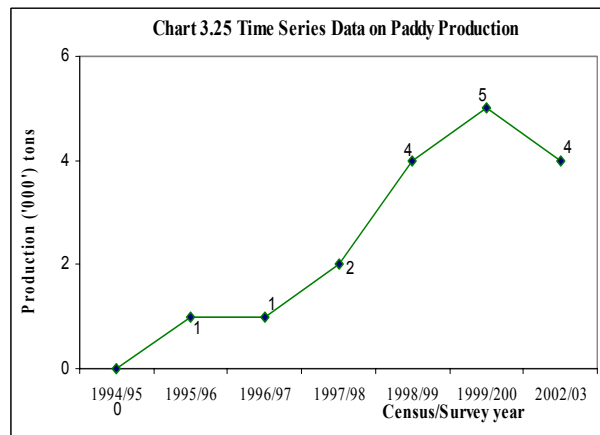
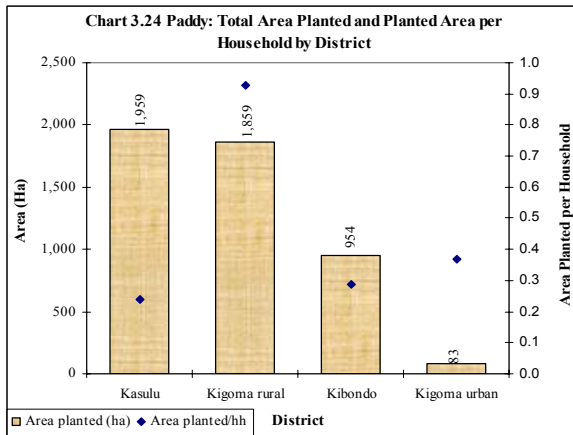
The average area planted with maize per household was 0.4 hectares; Kasulu district had the largest area of maize (36,958 ha) followed by Kibondo (27,195 ha), Kigoma rural (18,983 ha) and Kigoma Urban (760 ha). (Chart 3.21 and Map 3.12). Chart 3.23 shows that, the yield of maize remained stable from 1995 to 2000 but by year 2003 it had dropped. On the other hand the area planted with maize increased over the entire eight –year period from 1995 to 2003. (Chart 3.23 and 3.14)





3.3.4.2 Paddy

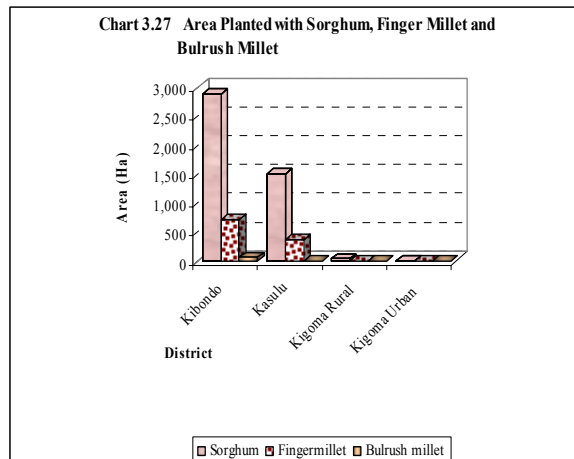
Paddy was the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Kigoma region during the short and long season were 11,298 and 2,510 respectively. These represented 0.1% and 2.1% of the total annual crop growing households in the respective seasons. The total production of paddy was 7,860 tonnes from a planted area of hectare 4,855 resulting in a yield of 1.6 t/ha. The district with the largest area planted with paddy was Kasulu (1,959 ha) followed by Kigoma rural (1,859 ha), Kibondo (954 ha), and Kigoma urbana (83 ha). (Chart 3.24 and Map 3.13 and map 3.14)

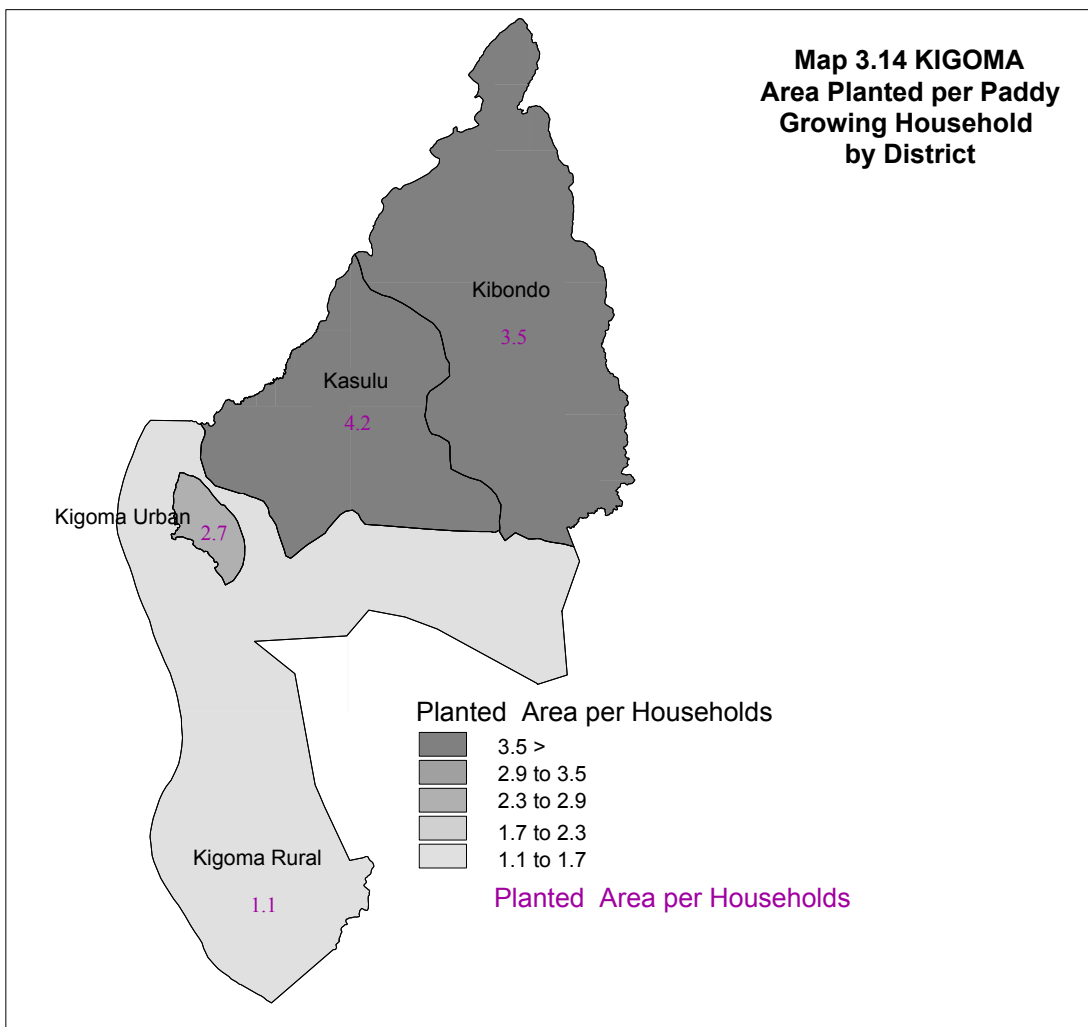
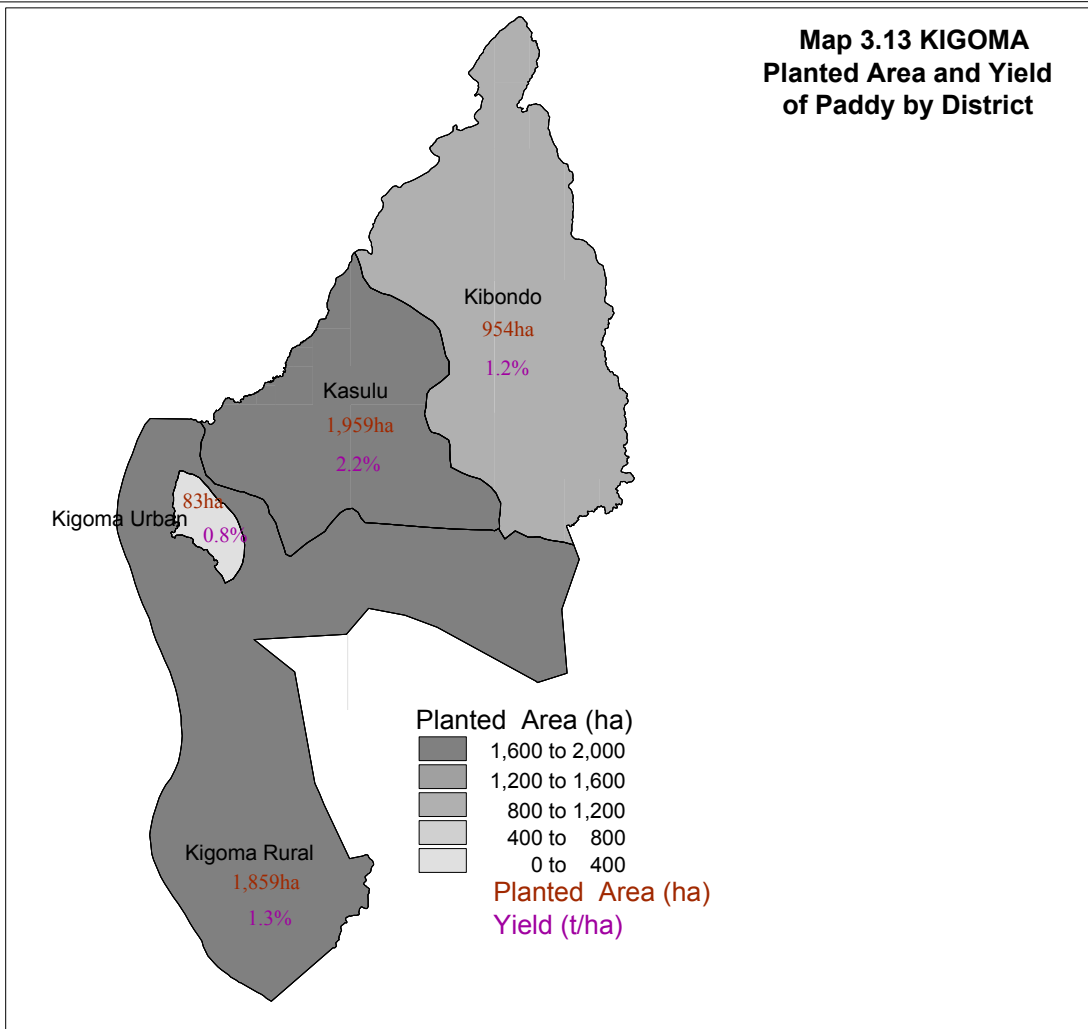


There was a sharp rise in the production of paddy in 1995/96, 1997/98, 1998/1999 and 1999/00, but by the 2002/03 production had dropped significantly. On the other hand the area planted with paddy kept increasing over the period from 1995/96 to 2003.

3.3.4.3 Other Cereals

In terms of area planted with other cereals, bulrush millet and finger millet were less important crops compared to sorghum. The district with the largest area planted with sorghum was Kibondo (2,875ha) and Kasulu (1,499 ha) and Kigoma rural (30 ha) There was no bulrush and finger millet production reported in Kigoma rural and Kigoma urbana districts. (Chart 3.27).





3.3.5 Roots and Tuber Crops Production

The total production of roots and tubers was 135,912 tonnes. Cassava production was higher than any other root and tuber crop in the region with a total production of 129,744 tonnes representing 95 percent of the total root and tuber crops production. This was followed by sweet potatoes with 5,312 tonnes (4%), the remaining other crops contribute less than 1% of the total production.

The estimated yield was highest for Irish potatoes (4.1 t/ha) followed by yams (2.5 t/ha), sweet potatoes (2.4t/ha), cassava (1.7 t/ha) and cocoyams (0.9 t/ha).

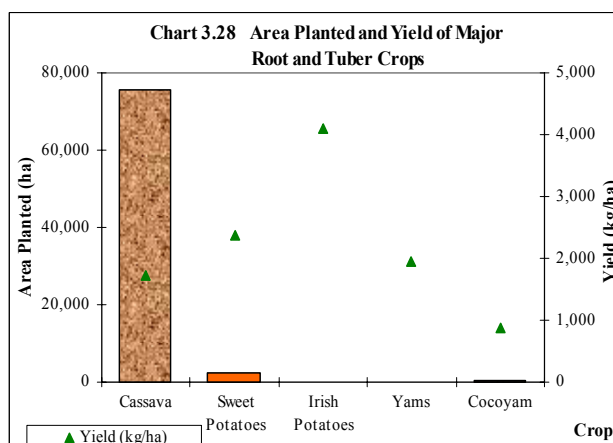


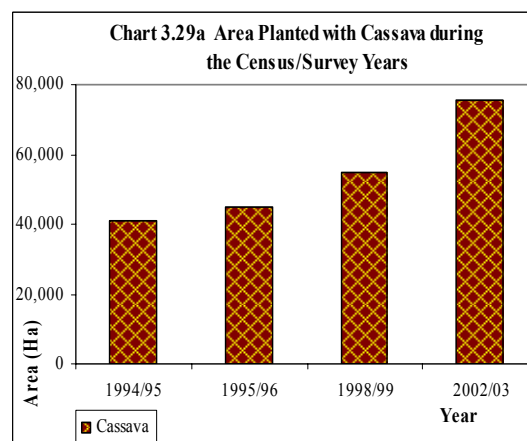
Table 3.3: Area planted and quantity harvested by season and type of root and tuber crop

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Cassava	178	165	927	75,497	129,579	1,716	75,675	129,744	1,714
Sweet Potatoes	1,193	3,103	2,601	1,046	2,209	2,112	2,239	5,312	2,372
Irish Potatoes	49	90	1,837	39	270	6,923	88	360	4,091
Yams	87	200	2,299	27	80	2,963	114	280	2,456
Cocoyam	238	175	735	10	41	4,100	248	216	871
TOTAL	1,745	3,733		76,619	132,179		78,364	135,912	

The area planted with cassava was larger than any other root and tuber crops and it was the second most important annual crop in Kigoma in terms of planted area

Note: Cassava is produced in both the long and short rainy seasons. However, it was not possible to separate cassava production in the different growing seasons as the growth period spans both seasons and even over a year in certain varieties. Because of this, cassava has been combined and is reported mainly under the long rainy season.

It is difficult to determine the total planted area and production for the short and long rainy seasons for roots and tubers as the total production of cassava has been reported under the long rainy season.

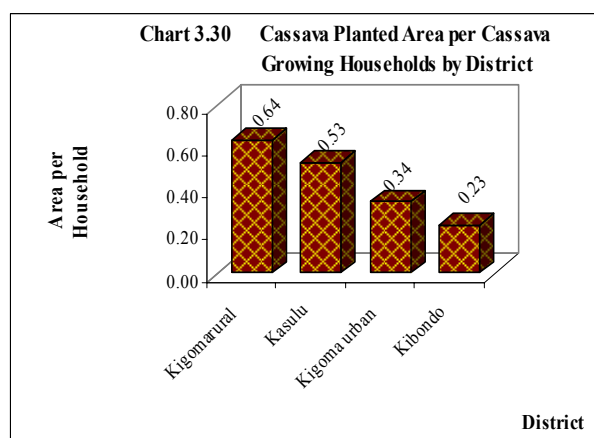
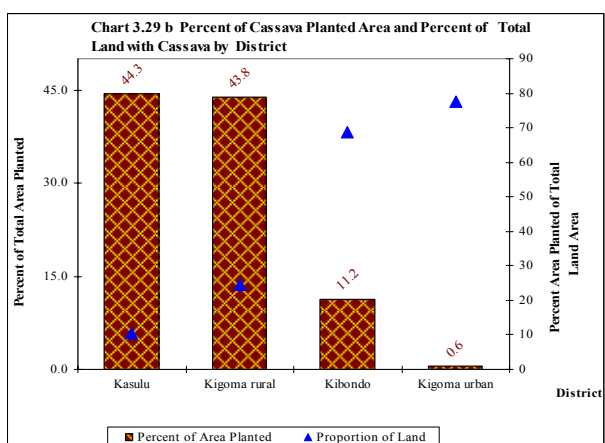


3.3.5.1 Cassava

The number of households growing cassava in the region was 137,943. This represented about 70 percent of the total crop growing households in the region. The total production of cassava during the census year was 129,744 tonnes from a planted area of 75,675 hectares resulting in a yield of 1.7t/ha.

Previous censuses and surveys indicate that the area planted with cassava increased over the period 1995 to 2002/03. (Chart 3.29a) The area planted with cassava accounted for 53 percent of the total area planted with annual crops and vegetables in the census year.

Kasulu district had the largest planted area of cassava (33,553 ha, 44.3%) of cassava planted area in the region), followed by Kigoma rural (33,178 ha, 43.8%), Kibondo (8,503 ha, 11.2%) and Kigoma urban (441 ha, 0.6%) (Chart 3.29a and Map 3.15)



However, the district with the highest proportion of its land planted with cassava was in Kigoma Urban (77.6%). This was followed by Kibondo (68.9%), Kigoma rural (24.5%), and Kasulu (10.6%) (Chart 3.29 b).

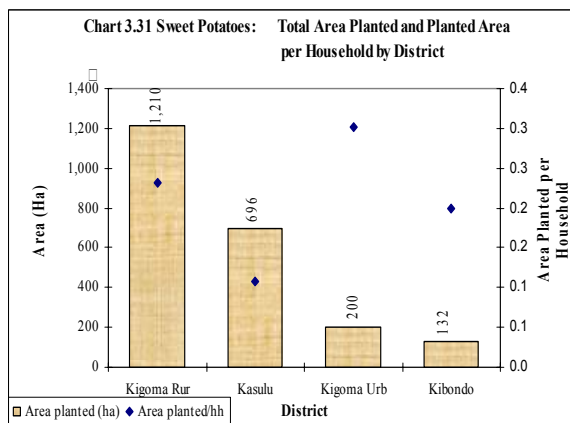
The average cassava planted area per cassava growing household was 0.5 hectares. However, there were small district variations. The area planted per cassava growing household was largest in Kigoma rural (0.6 ha). This was followed by Kasulu (0.5 ha), Kibondo (0.4 ha) and Kigoma urbana (0.3 ha) (Chart 3.30), Map 3.16).

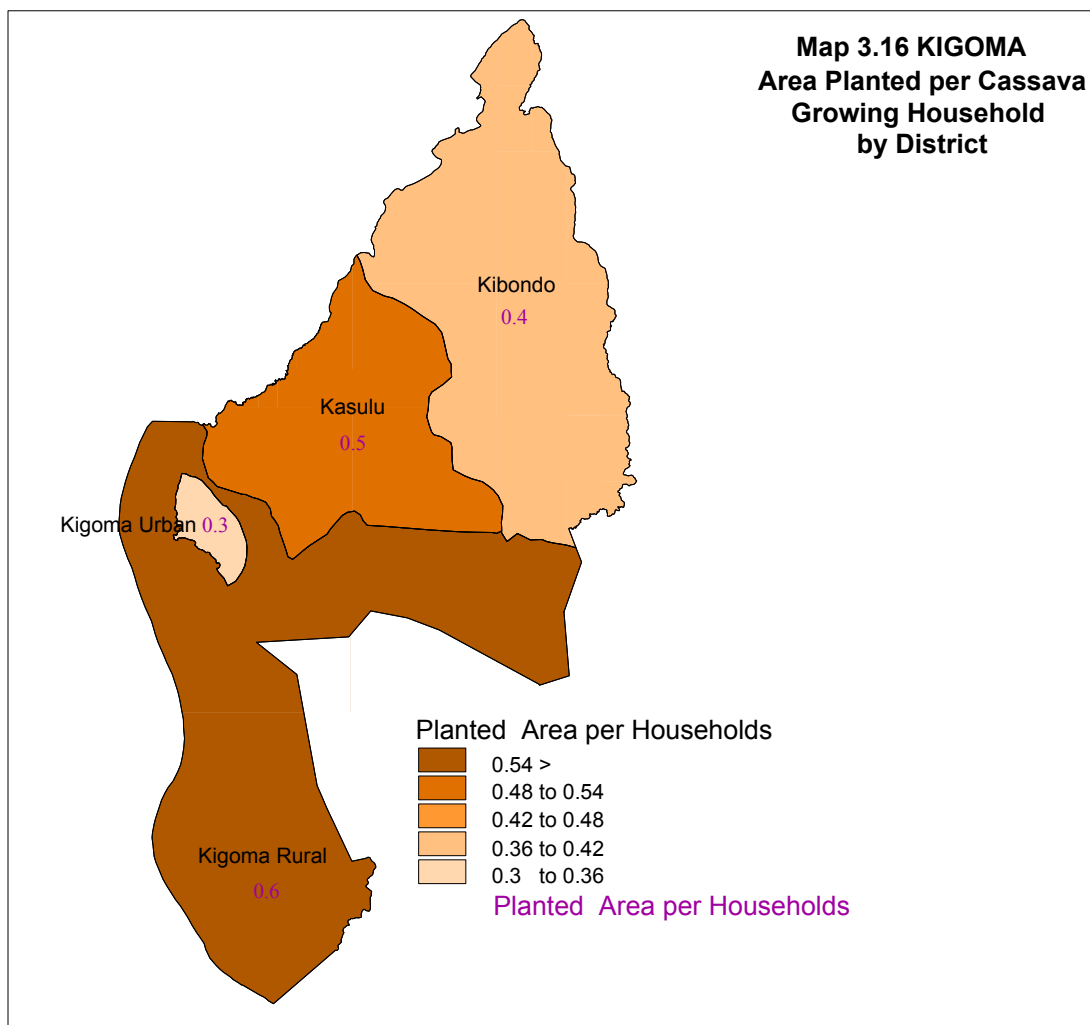
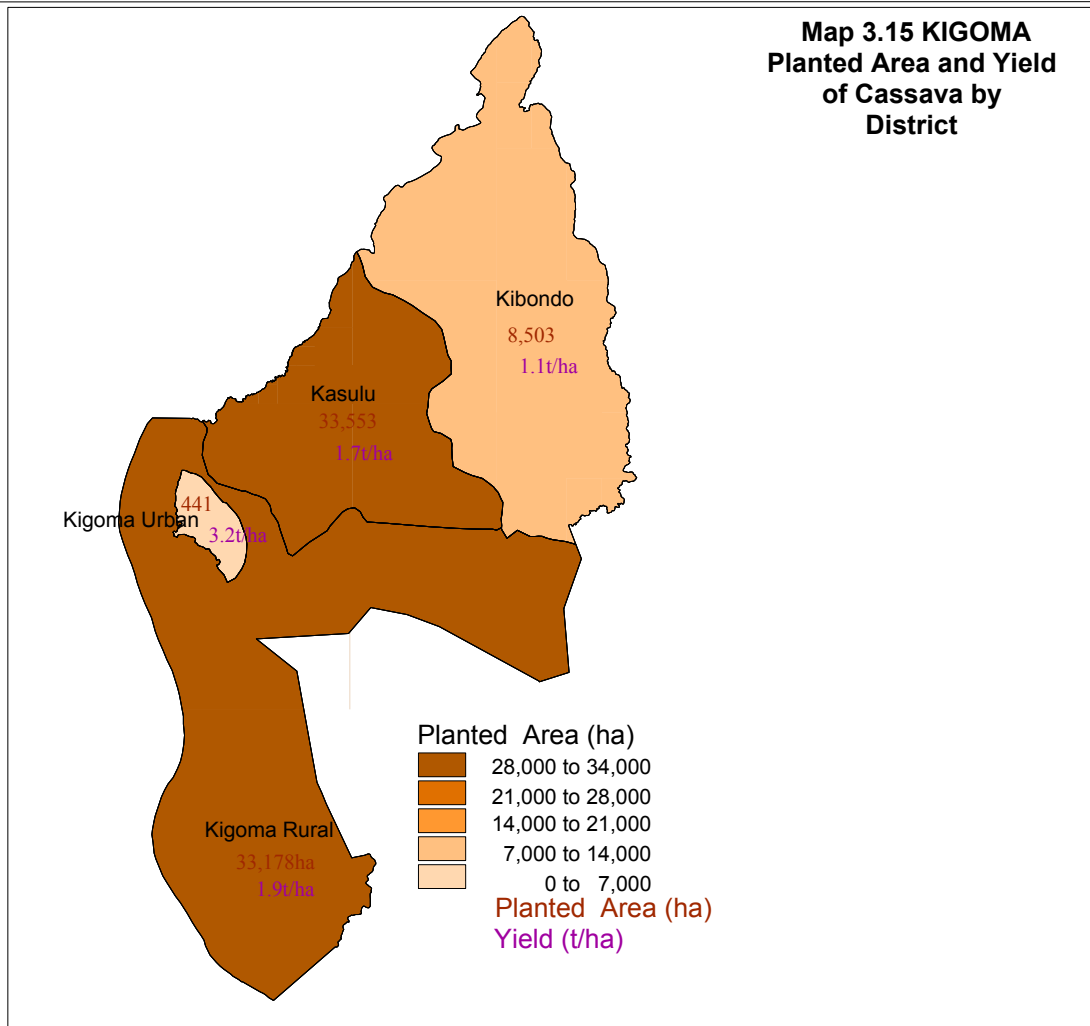
3.3.5.2 Sweet Potatoes

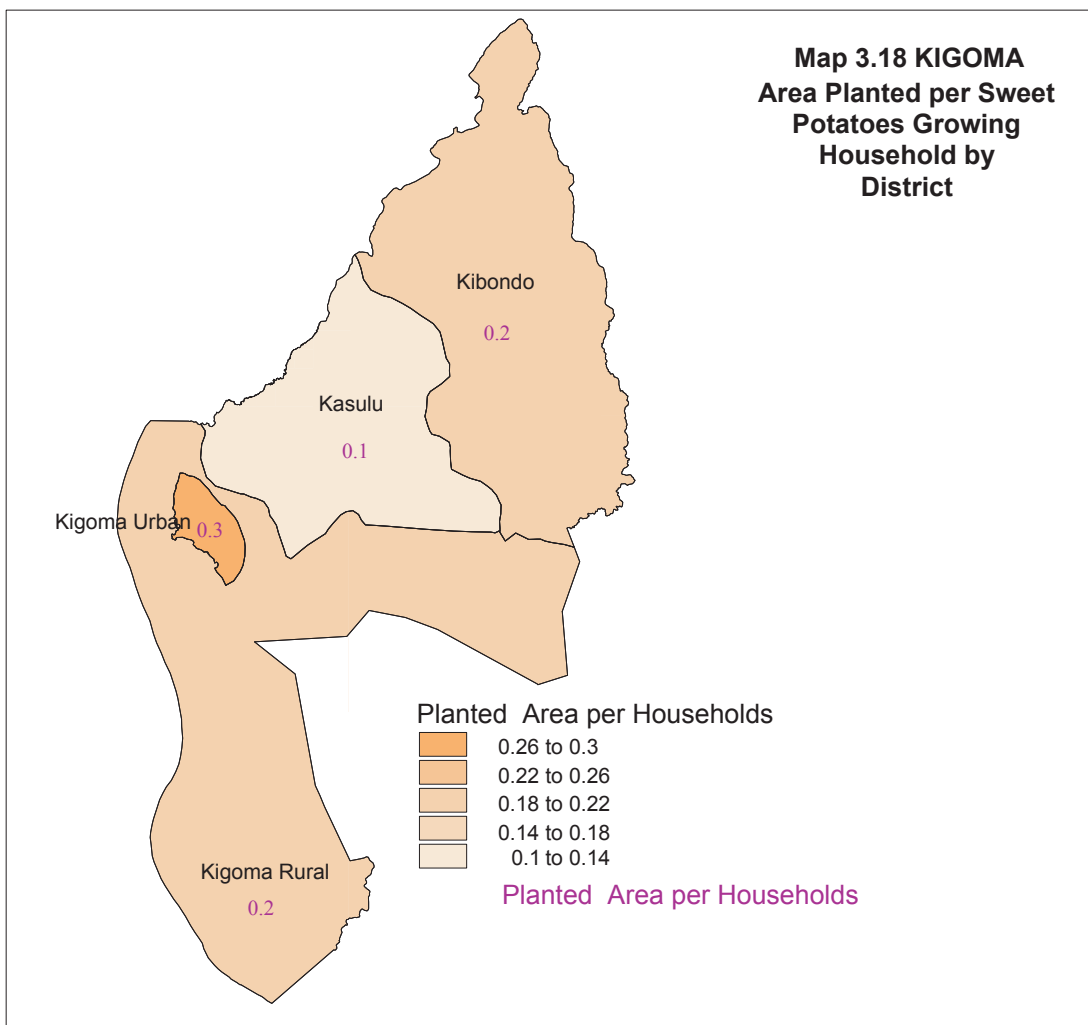
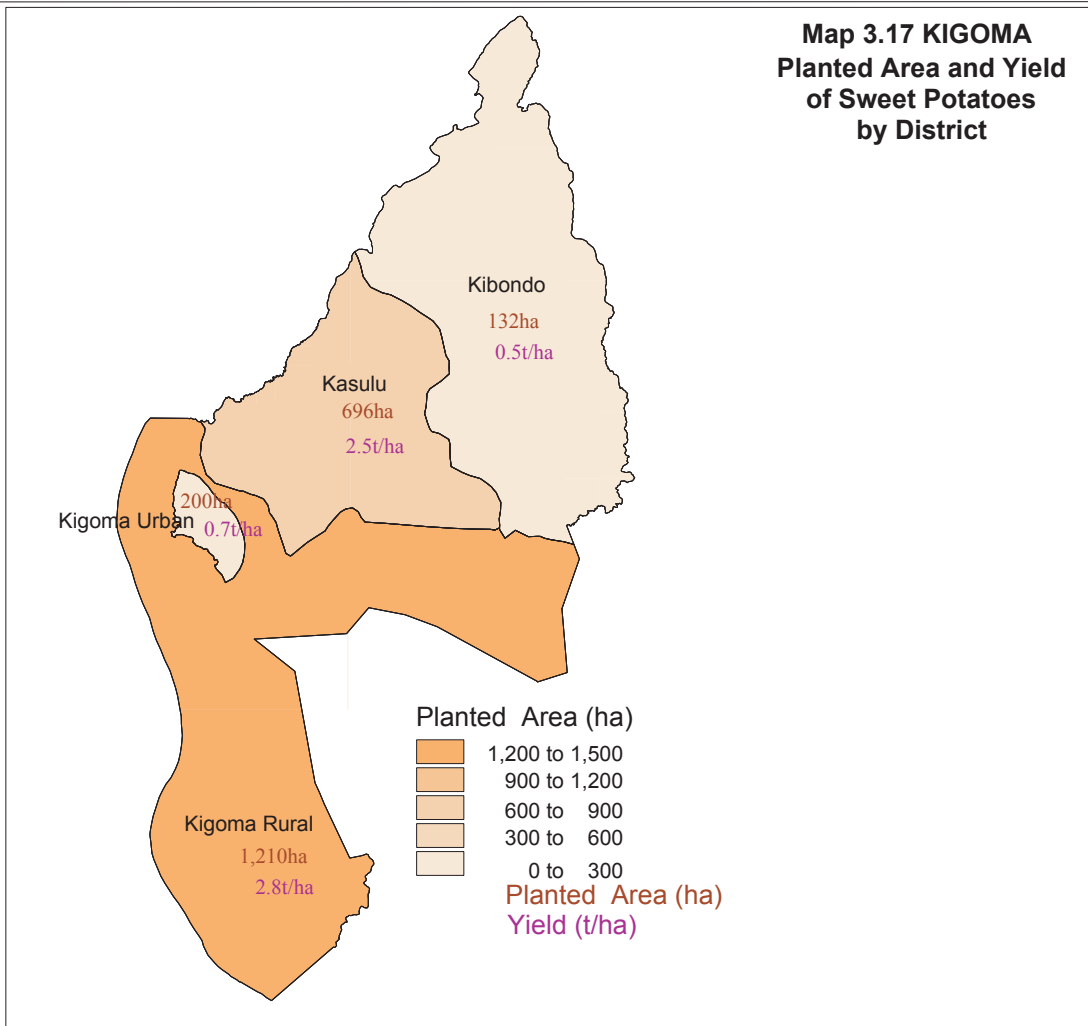
The number of households growing sweet potatoes in Kigoma region was 8,100 and 4,928 during short and long rainy seasons. This was 8.5% of the total root and tuber crop growing households during both seasons. The total production of sweet potatoes during the census year was 5,312 tonnes from a planted area of 2,238 hectares resulting in a yield of 2.4t/ha.

Kigoma rural district has the largest planted area for sweet potatoes (1,210 ha, 54.1%), followed by Kasulu (696 ha, 31.1%), Kigoma urban (200 ha 8.9%) and Kibondo (132 ha, 5.9%) (Chart 3.31 and Map 3.17 and 3.18).

Other root and tuber crops are of minor important in terms of area planted compared to cassava and sweet potatoes.







3.3.6 Pulse Crops Production:

The total area planted with pulses was 77,848 hectares out of which 77,486 ha were planted with beans (99.5 percent of the total area planted with pulses), other pulse crops were of minor importance in terms of area planted,

The area planted with pulses in the short rainy season was 47,044 ha which represented 60 percent of total area planted with pulses during the year. Beans was the most dominant pulse crop during short rainy season with 46,723 ha (99.3 % of the total area planted with pulses in that particular season), followed by cowpeas 214 ha, (0.5%) field peas (0.2%) and bambaranuts 16 ha (0.03%).

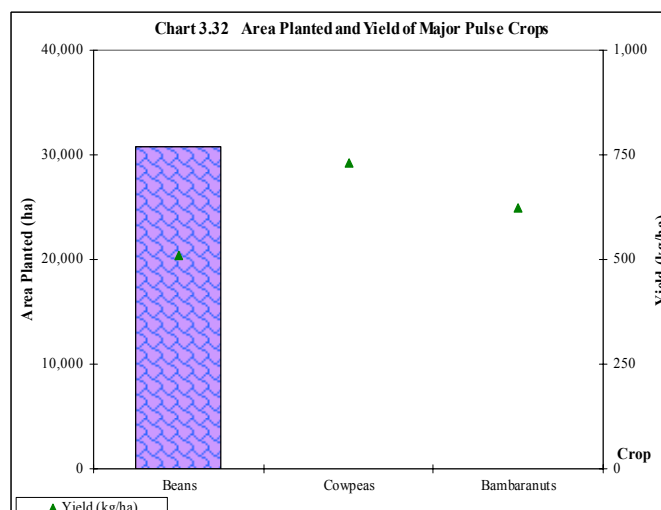


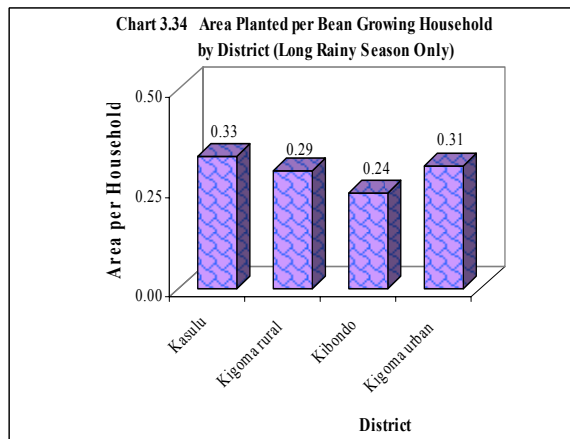
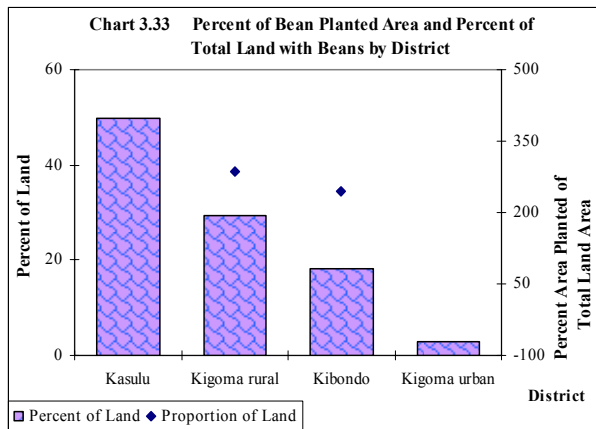
Table 3.4: Area, Quantity Harvested and Yield of Pulses by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Beans	46,723	24,588	526	30,764	15,716	511	77,486	40,304	520
Cowpeas	214	121	56	10	7	731	224	128	571
Bambaranuts	16	13	809	10	6	625	26	19	731
Field peas	91	50	549	20	20	1000	111	70	630
TOTAL	47,044	24,772		30,804	15,749		77,848	40,521	

The total production of pulses was 40,521 tonnes. Beans production constituted 99.5 percent of the total pulse production. It was followed by cowpeas (128t, 0.3%), field peas (70t, 0.2%) and bambaranuts (19t, 0.05%) (Chart 3.32).

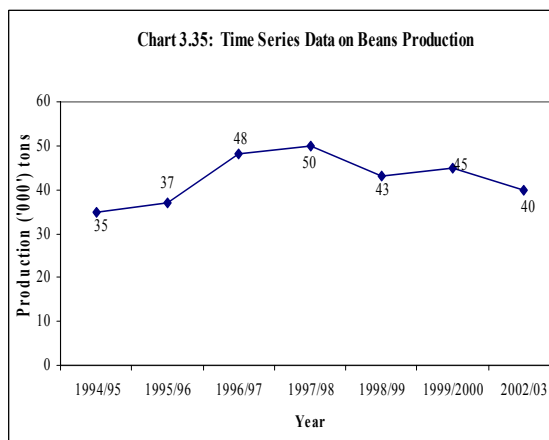
3.3.6.1 Beans

Beans dominated the production of pulse crops in the region. The number of households growing beans in Kigoma region in the short and long rainy seasons was 156,692 and 100,196 respectively. The total production of beans in the region was 40,304 tonnes from a planted area of 77,486 hectares resulting in a yield of 0.52 t/ha.



Kasulu with 39351 ha of beans had the largest planted area in the region, (Chart 3.33), it also had the largest area planted with beans per household (0.33 ha) (Chart 3.34). The average area planted per household in the region during the long rainy season was 0.5 ha. The variations in area planted with beans per household among the districts were small ranging from 0.33 to 0.24 ha, (Chart 3.34 and Map 3.20)

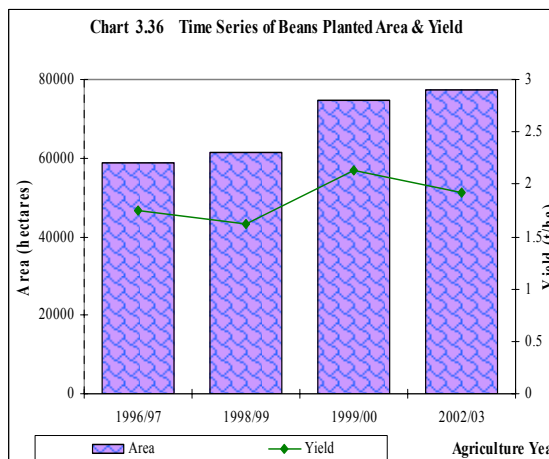
In Kigoma region, bean production has increased steadily over the period 1994/95 to 1997/98 from 35000 tonnes in 1995 to 50,000 tonnes in 1998 but thereafter it started dropping and by 2001 ha dropped to 40,000 tonnes (Chart 3.35).



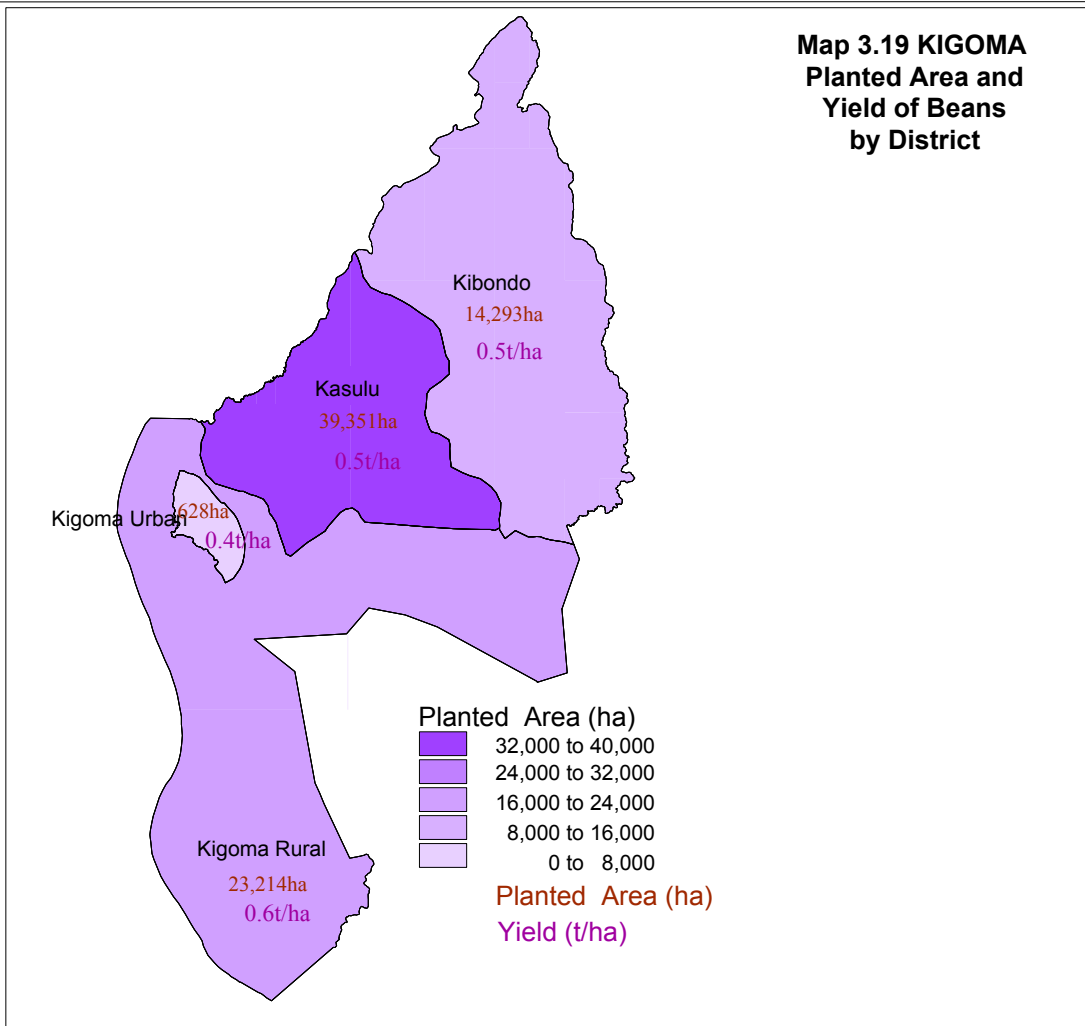
3.3.7 Oil Seed Production

The total production of oilseed crops was 8,577 tonnes planted on an area of 11,202 hectares. The total planted area of oilseeds during the short rainy season was 7,944 ha representing 70.9 percent of the total area planted with oil seeds.

The groundnuts was the most important oilseed crop with 10,972 ha (98.0 % of the total area planted with oil seeds), followed by simsim (1.7%) and sunflower (0.3%). (Table 3.5) The yield for simsim was 1057 kg/ha. The yield for ground nuts was 761 kg/ha and the yield for sunflower was 519 kg/ha.



**Map 3.19 KIGOMA
Planted Area and
Yield of Beans
by District**



**Map 3.20 KIGOMA
Area Planted per Beans
Growing Household
by District**

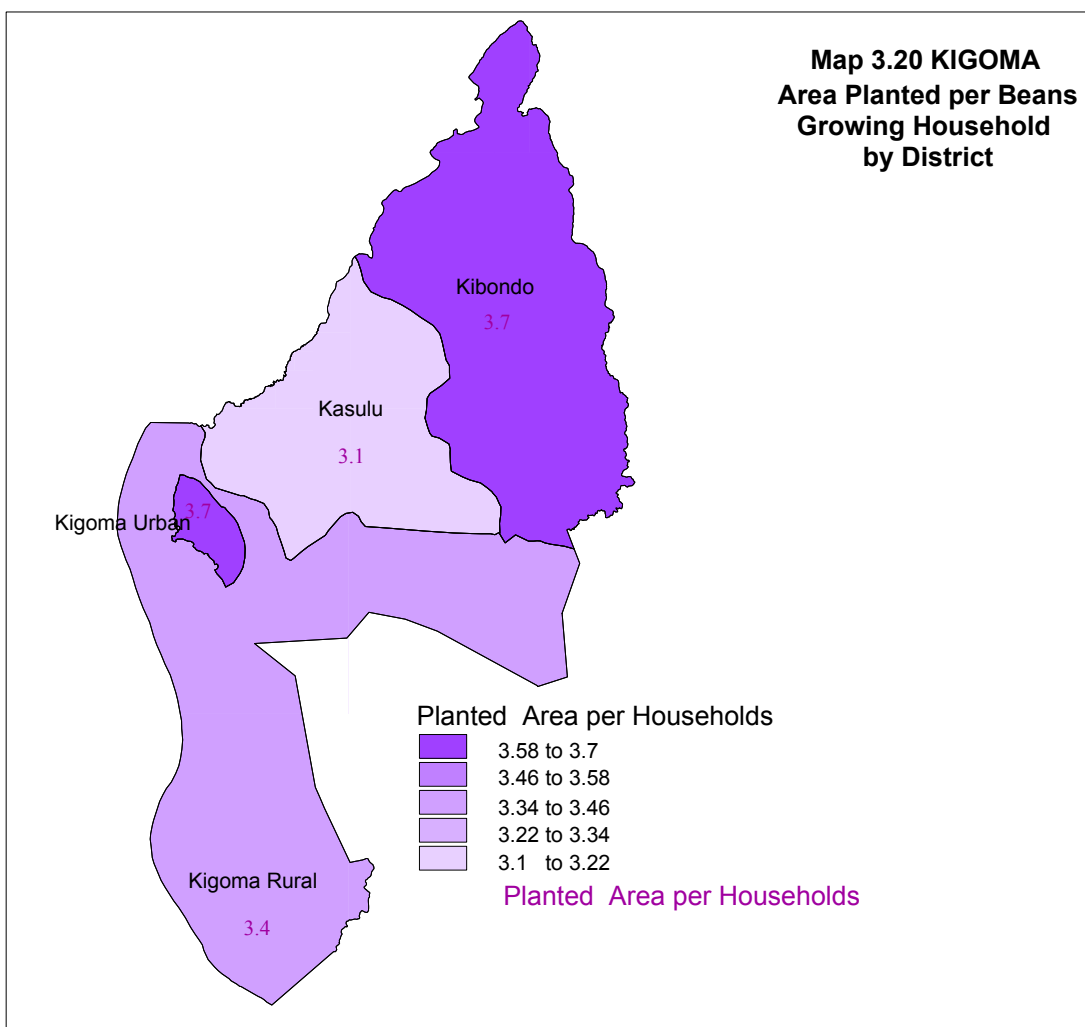


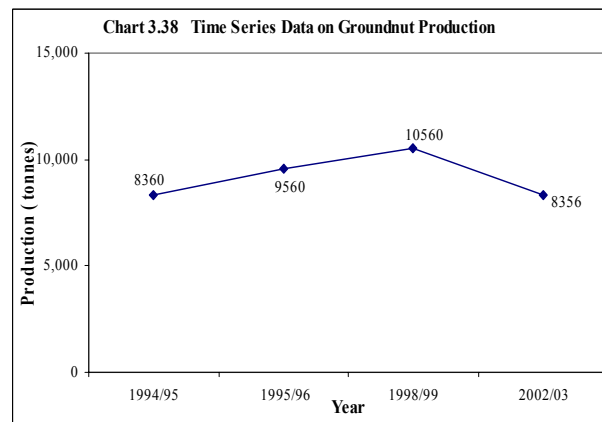
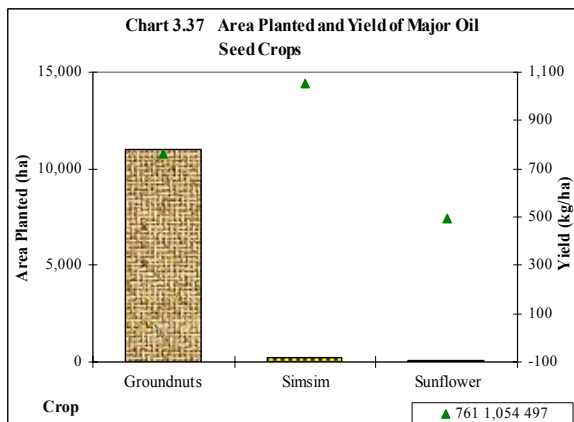
Table 3.5: Area, Quantity Harvested and Yield of Oil Seed Crops by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Sunflower	37	19	514	0	0	0	37	19	514
Simsim	140	163	774	53	41	774	193	204	1,057
Groundnuts	7,767	5,615	723	3,205	2,739	855	10,972	8,354	761
Total	7,944	5,797		3,258	2,780		11,202	8,577	

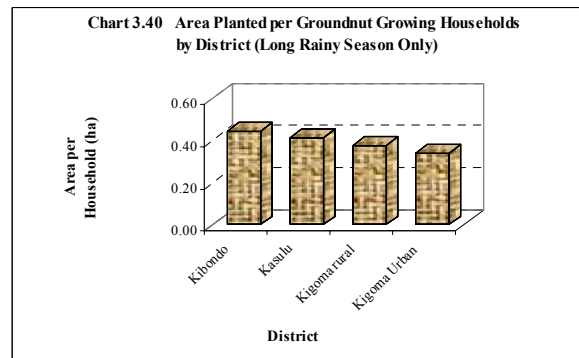
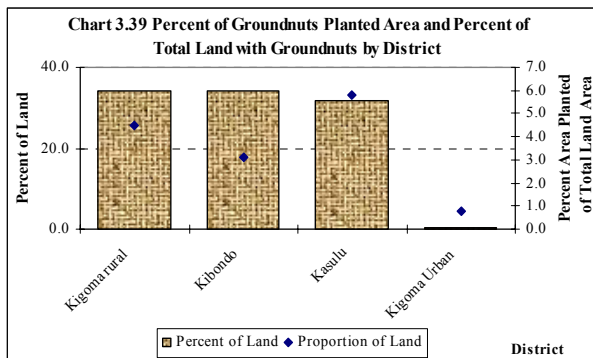
3.3.7.1 Groundnuts

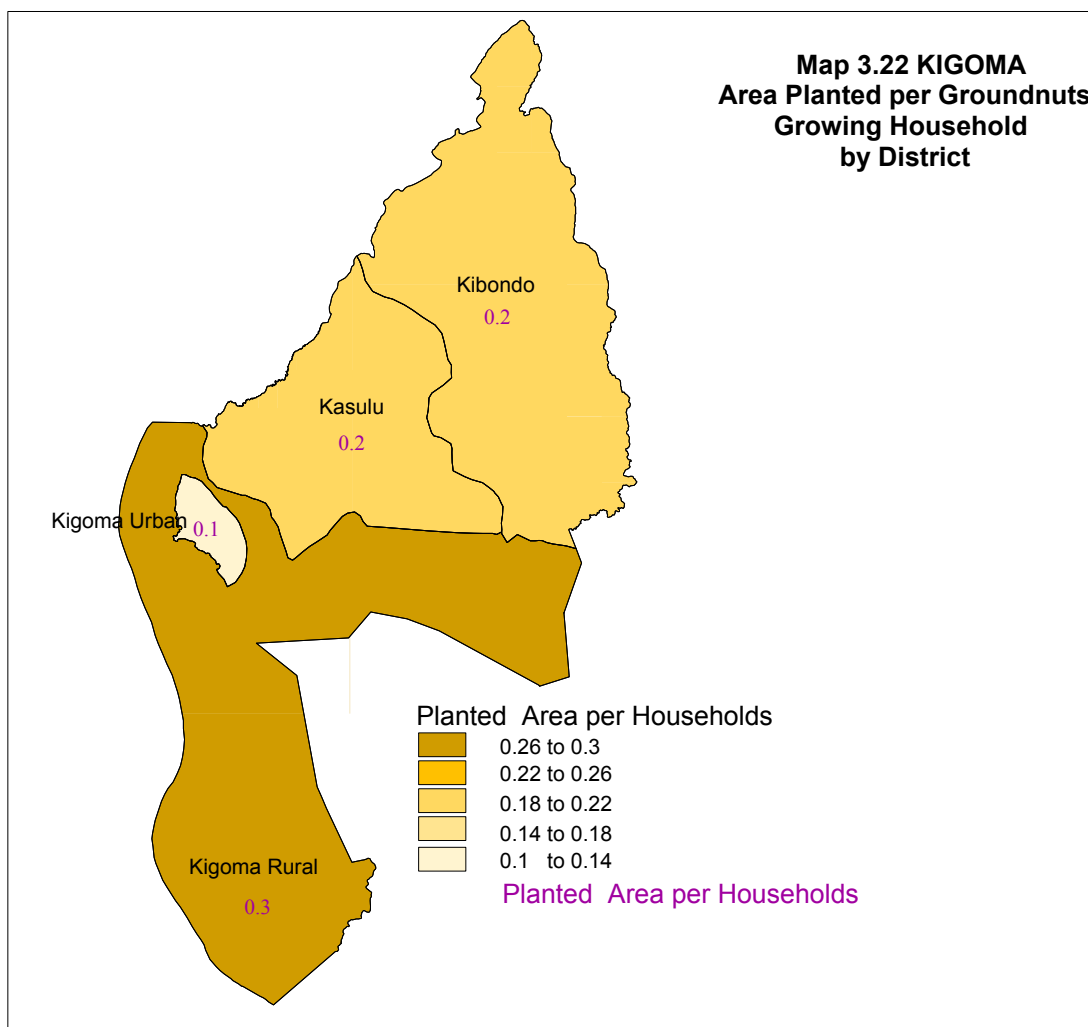
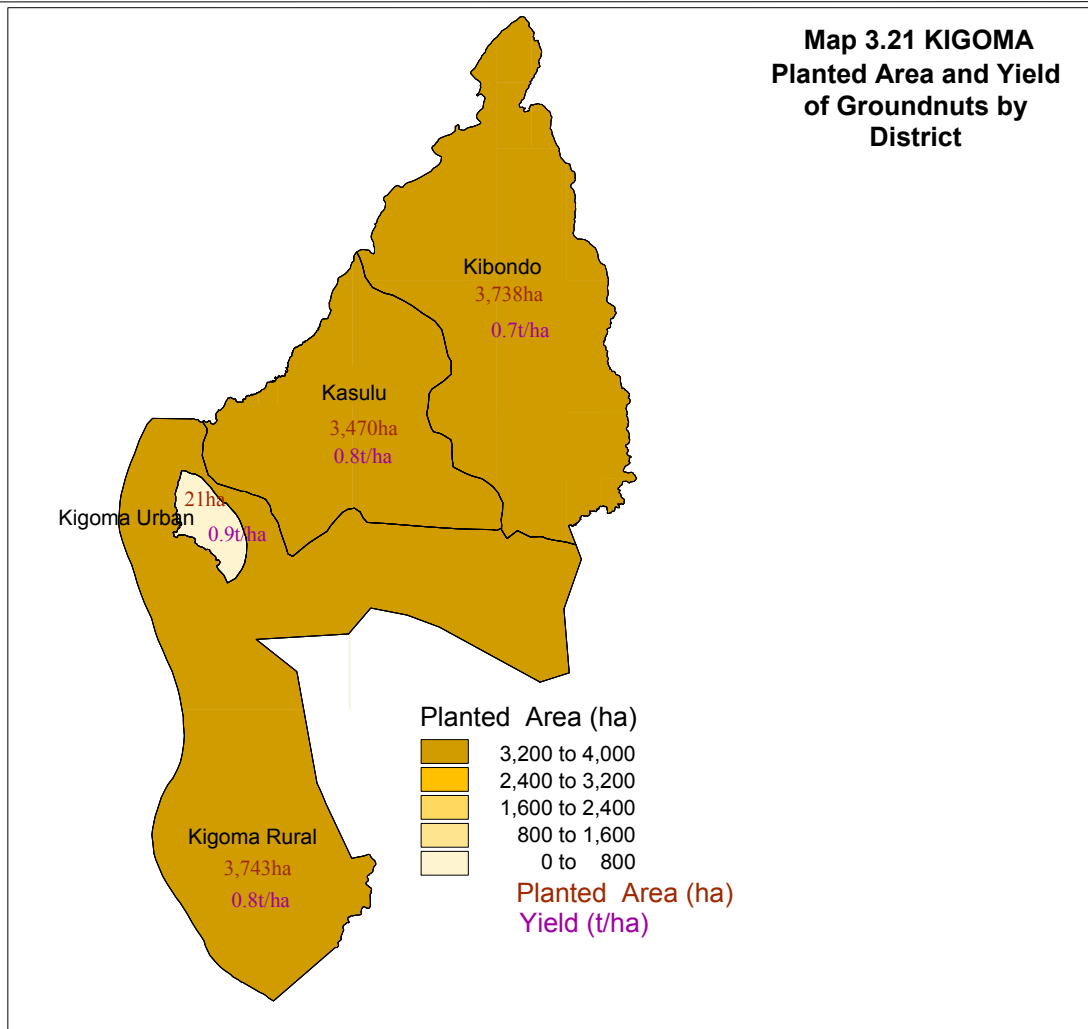
The number of households growing groundnuts in Kigoma region was 30,879 and 14,008 during short and long rainy seasons. The total production of groundnuts in the region was 8,354 tonnes from a planted area of 10,972 hectares resulting in a yield of 0.8 t/ha. There was a decrease in production of groundnuts over the period 2001 to 2003, from 10,560 tonnes in 2001/02 to 8,353 tonnes in 2002/03.

The district with the largest groundnuts planted area was Kigoma rural with 3743 hectares (34.1 percent of the total area planted with groundnuts in the region) followed by Kibondo (3738 ha, 34.1%), Kasulu (3,470 ha, 31.6%) and Kigoma urban (21 ha, 0.2%), (Chart 3.39 and Map 3.21).



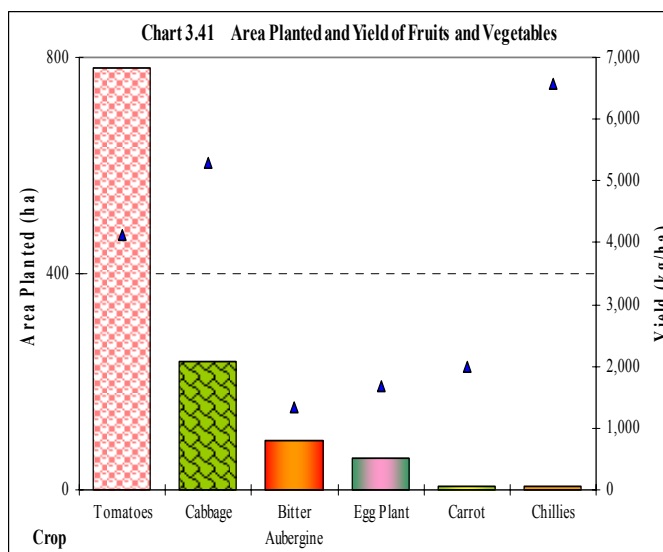
The largest area planted per groundnut growing household was found in Kigoma urban (1.1 ha) and the lowest was in Kibondo (0.7 ha.) The range between the district with the highest and the lowest area planted per household depicts small variations in area planted among the districts (Chart 3.40). Map 3.22





3.3.8 Fruits and Vegetables

The collection of fruits and vegetables production data was difficult due to the small quantities produced per household. Most of the data presented here gives the production of smallholders who grew these crops as cash crops and not merely for household consumption. Most fruit production is from permanent crops and only water melon is reported as an annual crop in this section. Reliable historical data for time series analysis of fruits and vegetables are not available the short rainy season is relatively important for fruits and vegetables production since 56 percent of the total area planted with fruits and vegetables was during the short rainy season. For tomatoes, onion, cabbage, water mellow, ginger, and pumkins over 50 percent of the planted area was during the short rainy season.



The total production of fruits and vegetables was 5704 tonnes. The most cultivated fruit and vegetable crop was tomatoe with a production of 3,208 tonnes (56.2% of the total fruits and vegetables produced) followed by cabbage (1,256t, 22.0%), onion (508t, 8.9%), amaranths (388t, 6.8%), egg plant (128t, 2.2%) and aubergine (120t, 2.1%) The production of the other fruits and vegetables crops was relatively small (Table 3.6).

Table 3.6: Area, Production and Yield of Fruits and Vegetables by Season

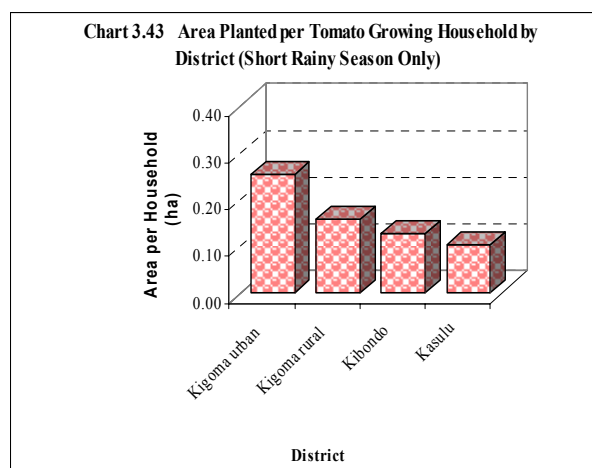
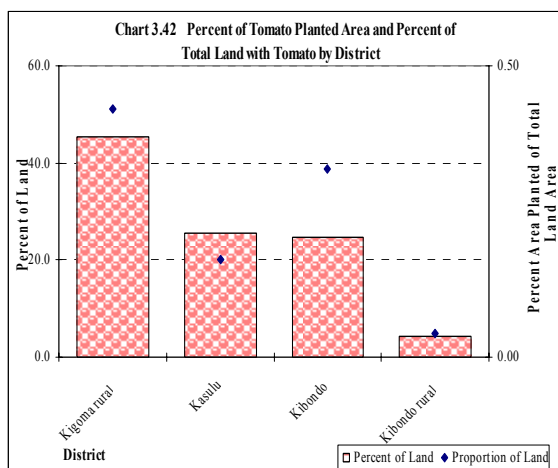
Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Okra	0	0	0	25	13	203	25	13	520
Bitter Aubergine	41	60	683	48	60	1,250	89	120	1,348
Onions	179	372	481	58	136	2,345	237	508	2,143
Cabbage	122	449	3,680	115	807	7,017	237	1,256	5,300
Tomatoes	384	1,285	3,346	396	1,923	4,856	780	3,208	4,113
Spinnach	3	15	5,000	5	7	1,400	8	22	2,750
Carrot	8	16	2,000	0	0	0	8	16	2,000
Chillies	4	29	7,250	3	16	5,333	7	45	6,429
Amaranths	109	372	3,413	470	16	34	579	388	670
Egg Plant	57	95	1,667	12	33	0	69	128	1,855
Total	907	2,683		1,132	3,011		2,039	5,704	

The yield of chillies was 6,429 kg/ha, cabbage (5300 kg/ha), tomatoes (4113 kg/ha) and spinach (2,750 kg/ha), onion and carrot had yields of 2143 and 2000 kg/ha respectively (Chart 3.42 and Map 3.22).

3.3.8.1 Tomatoes

The number of households growing tomatoes in the region during the long rainy season was 2,836 and in the short rainy season the number was 2,956. This represented 2.4 percent of the total crop growing households in the region during the long rainy season and 1.2 percent during the short rainy season.

Kigoma rural district had the largest planted area of tomatoes (45.4% of the total area planted with tomatoes in the region), followed by Kasulu (25.6%), Kibondo (24.7%) and Kigoma urban (4.2%). (Map 3.23)

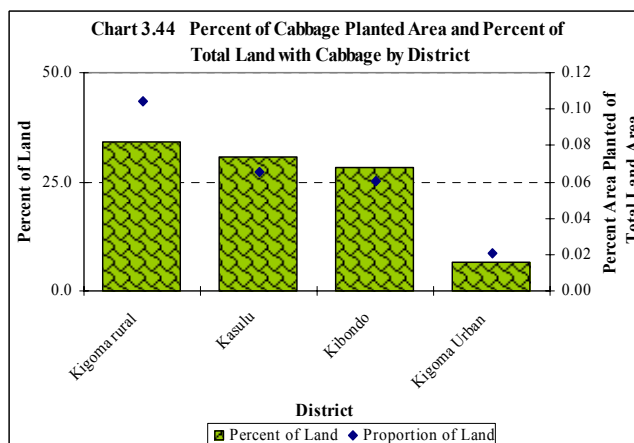


The highest proportion of land with tomatoes was found in Kigoma rural followed by Kibondo, Kasulu district, the remaining of the district had relatively low percentage of land used for tomato production (Chart 3.42). The largest area planted per tomato growing household was found in Kigoma urban district (0.25 ha) followed by Kigoma rural (0.16 ha), Kibondo (0.13 ha) and Kasulu (0.10 ha) (Chart 3.43) and Map 3.24). The total area planted with tomatoes accounted for 0.3 percent of the total area planted with annual crops and vegetables during the census year.

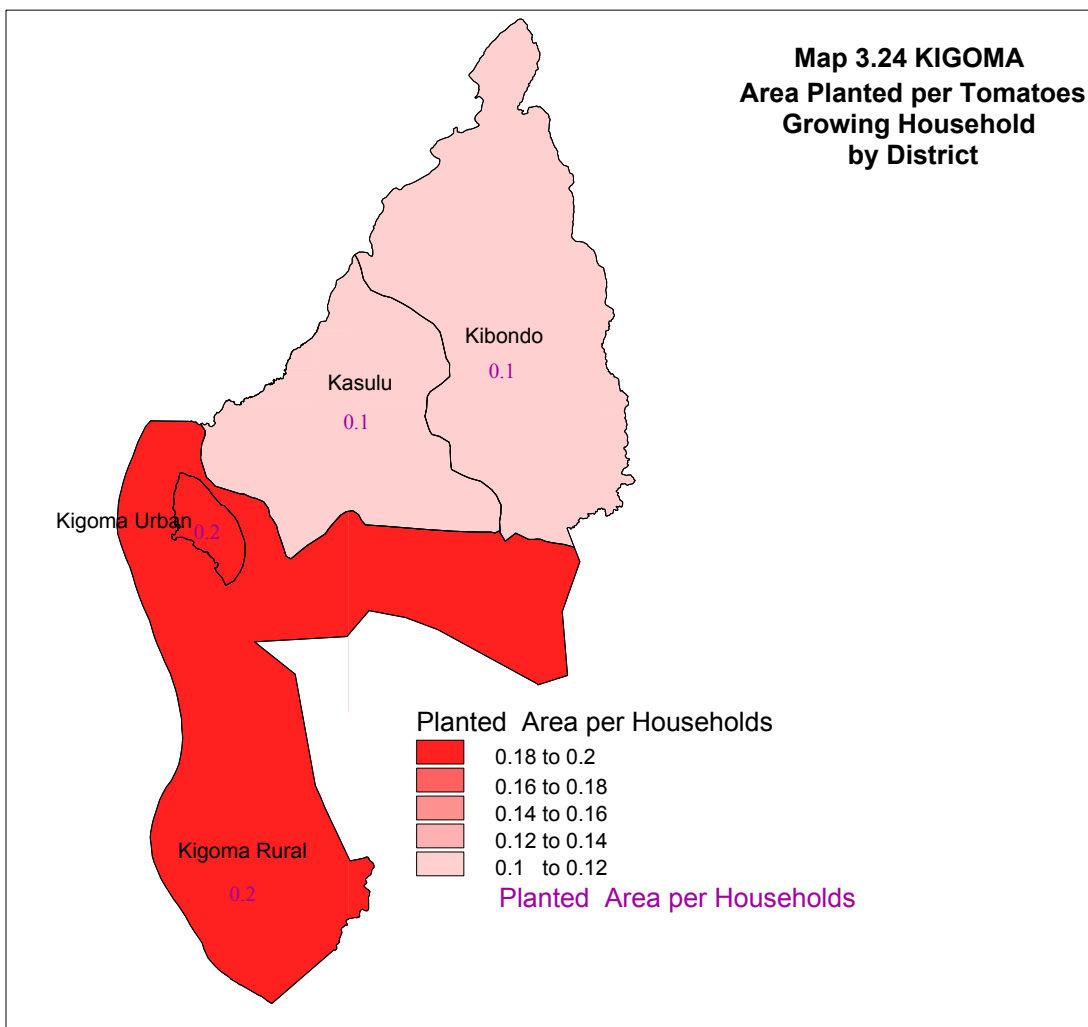
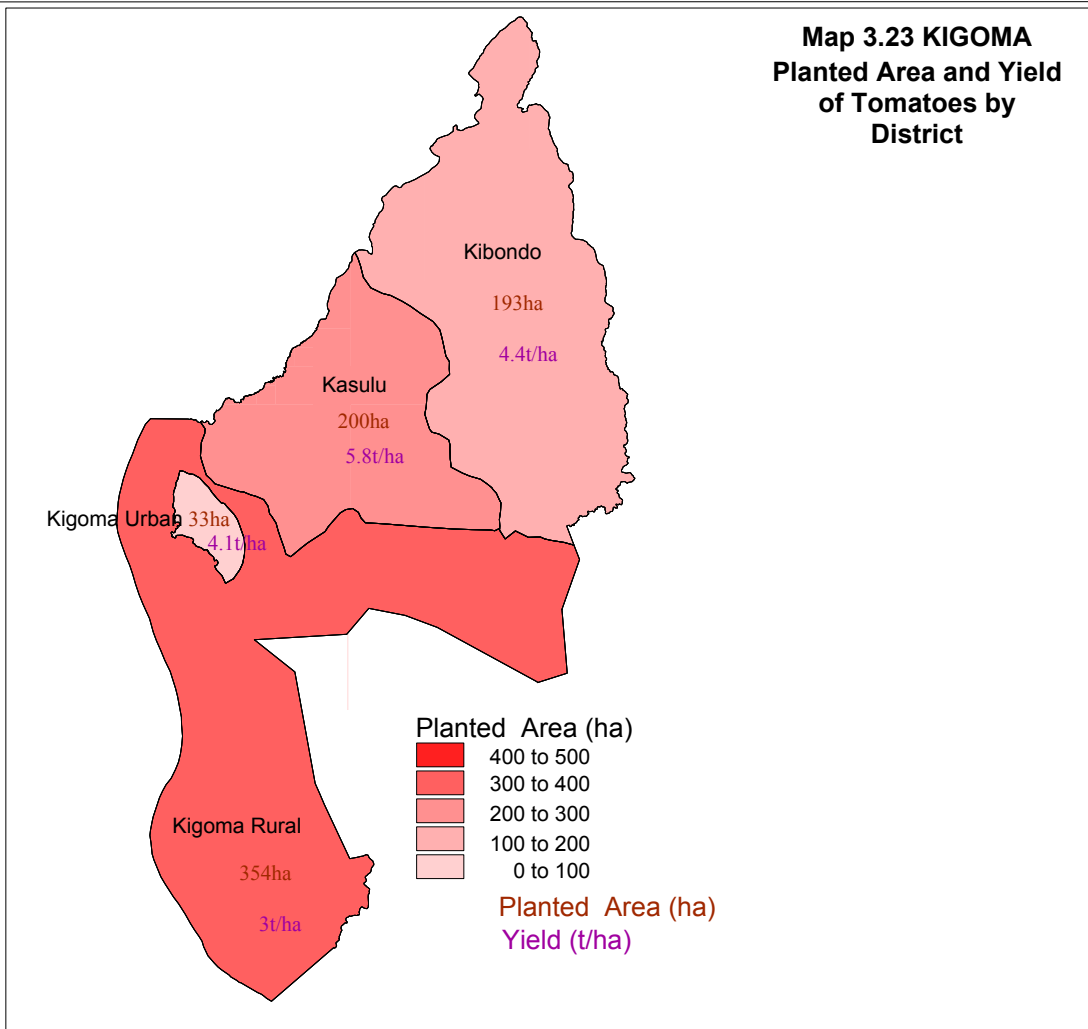
3.3.8.7 Cabbage

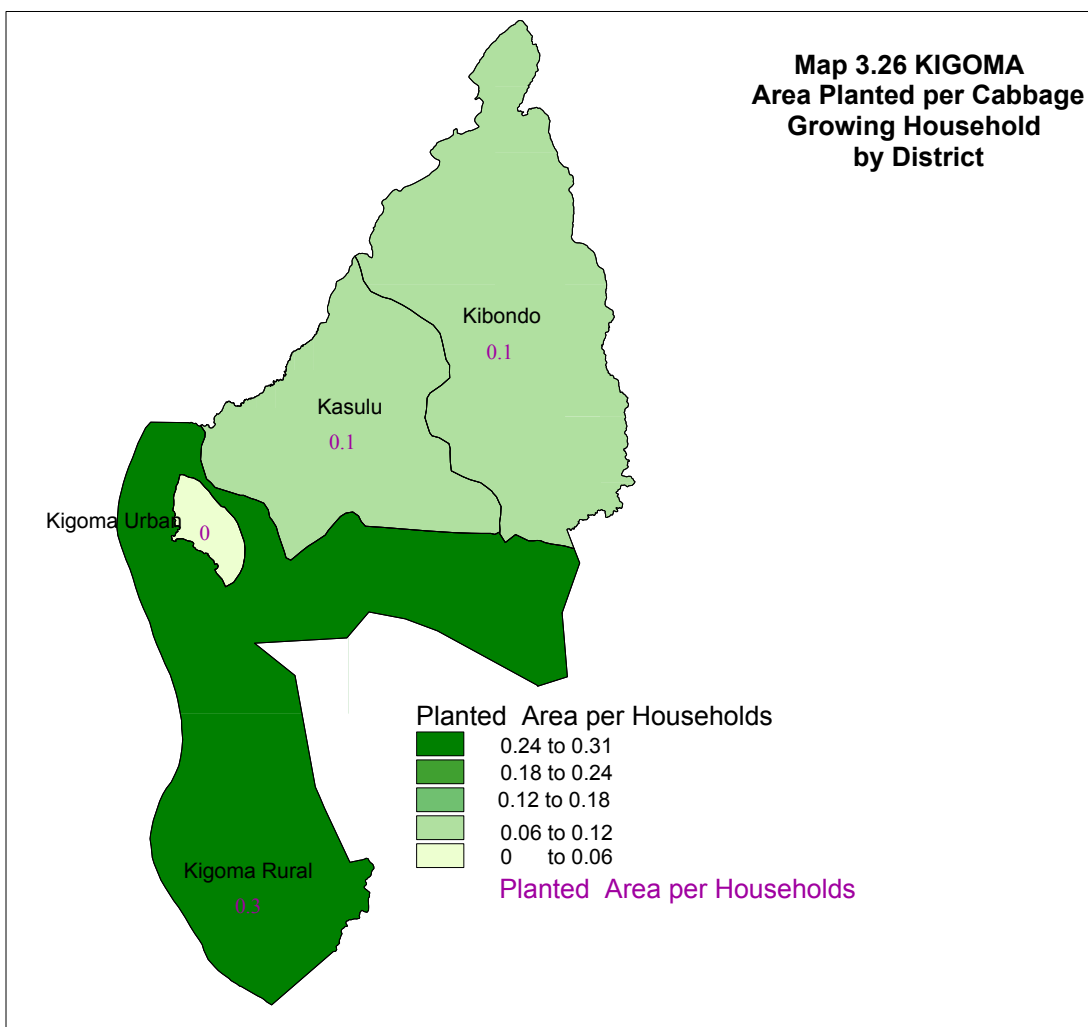
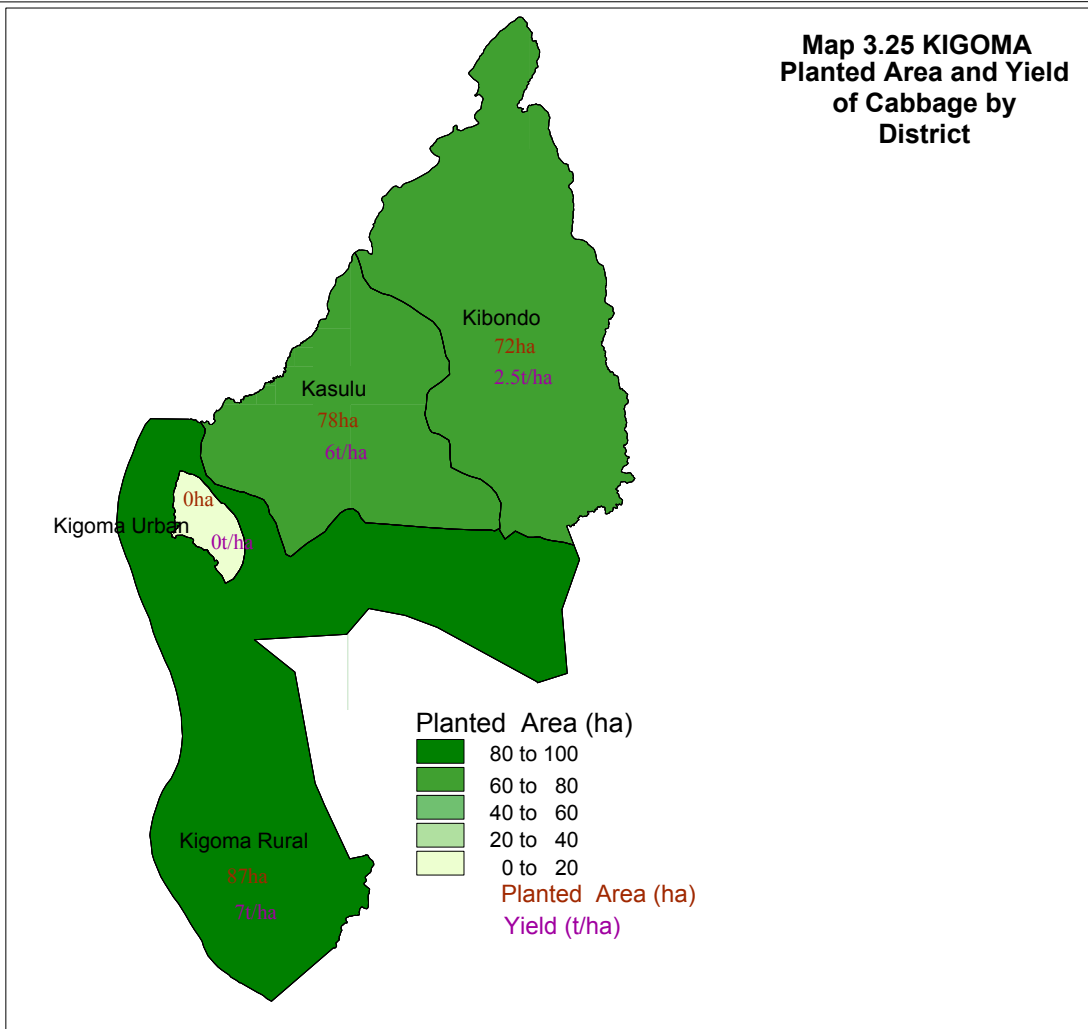
The number of households growing cabbages in the region during the long rainy season was 750 and 1010 in the short rainy season. This represented 0.6 percent of the total crop growing households in the region in the long rainy season and 0.5 percent in the short rainy season.

Kigoma rural district had the largest planted area of cabbage (87 ha, 34.3% of the total area planted with cabbage in the region), followed by Kasulu (78 ha, 30.7%), Kibondo (72 ha, 28.3%) and Kigoma urban (17 ha, 6.7%). (Chart 3.45 and Map 3.25) map 3.26.



The total area planted with cabbages accounted for 0.09 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.

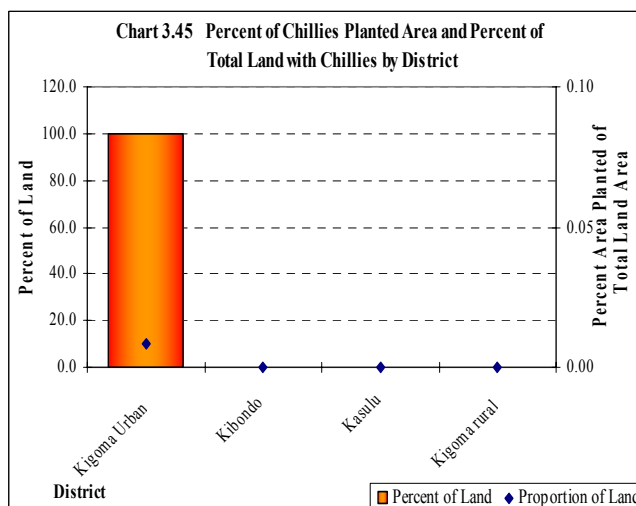




3.3.8.3 Chillies

The number of households growing chillies in the region during both the long and short rainy season was 34.

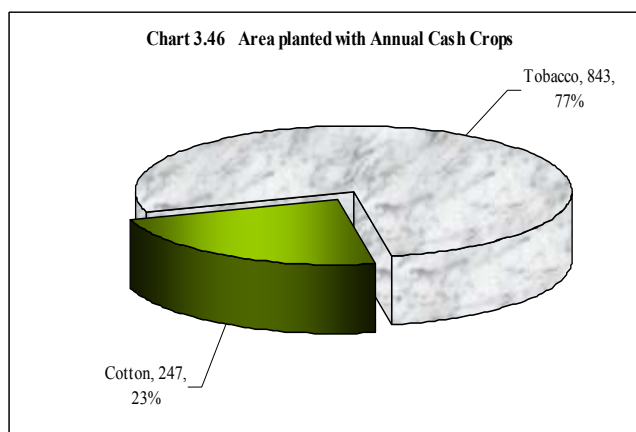
This represented 0.03 percent of the total crop growing households in the region. Kigoma Urban district had the only planted area of chillies (7 ha, 100% of the total area planted with chillies in the region), Chillies were not reported in the remaining districts. The largest proportion of the area planted with chillies. (Chart 3.45).



The total area planted with chillies accounted for 0.002 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.

3.3.9 Other Annual Crop Production

Most of the other annual crops are cash crops. An area of 1090 ha was planted with other annual crops and Tobacco was the most prominent followed by cotton. The area planted with tobacco was 843 ha which represented 77 percent of the total area planted with annual cash crops in short and long rainy season.



Cotton

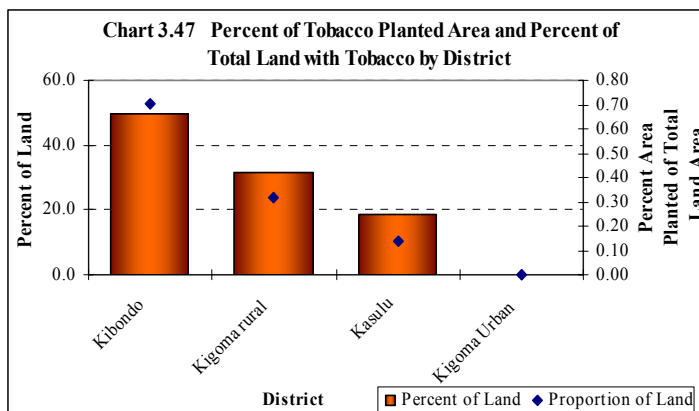
Only 89 tonnes of cotton were produced in Kigoma Region on a planted area of 247 ha. All of it was produced during the short rainy season. The crop only grown in Kibondo district,

Table 3.6: Area, Production and Yield of Annual Cash Crops by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Seaweed	0	0	0	0	0	0	0	0	0
Cotton	247	89	360	0	0	0	247	89	360
Tobacco	835	473	566	8	6	750	843	479	568
Jute	0	0	0	0	0	3	0	0	3
TOTAL	1,082	562		8	6		1,090	568	

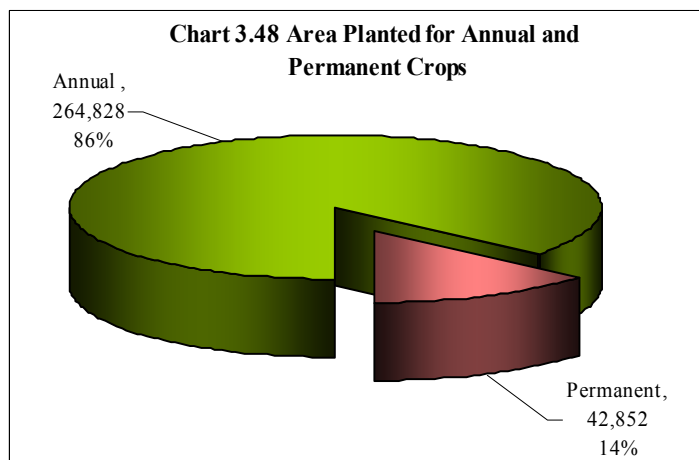
Tobacco

The quantity of tobacco produced was 479 tonnes. Tobacco had a planted area of 843 ha, most of which was planted in the short rainy season. Tobacco production was concentrated in 3 districts with Kibondo having the largest planted area (49.8% of total area planted with tobacco in the region), followed by Kigoma rural (31.6%) and Kasulu (18.6%). Kigoma urban had no production of Tobacco. (Chart 3.47).



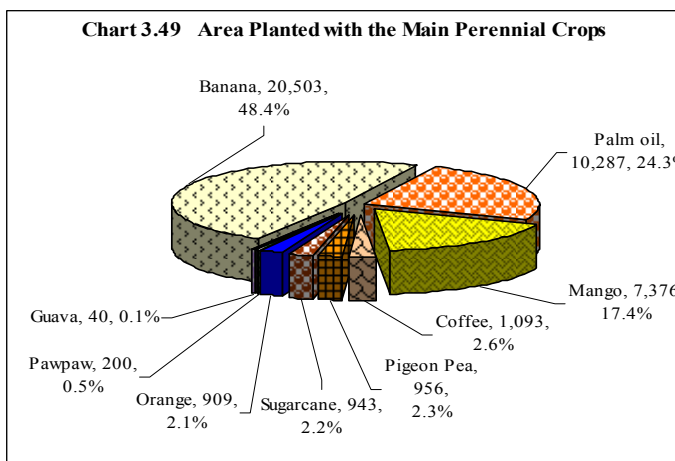
3.4 Permanent Crops

Permanent crops (sometimes referred as perennial crops) are crops that normally take over a year to mature and once mature they can be harvested for a number of years. For most crops, it is easy to determine if they are annual or permanent. However, for crops like cassava and bananas the distinction is not so clear. Cassava has varieties that mature within a year and produce only one harvest, whilst other varieties survive for more than one year and produce several harvests. In this census, cassava was treated as an annual crop. Conversely, bananas normally take less than a year to mature, survive for more than one year and are thus treated as a permanent crop. In this report the agriculture census results are presented for the most important permanent crops in terms of planted area, production and yield. Previous censuses and surveys did not measure these variables for permanent crops, therefore no time series analysis is made in this section.



In this census, cassava was treated as an annual crop. Conversely, bananas normally take less than a year to mature, survive for more than one year and are thus treated as a permanent crop. In this report the agriculture census results are presented for the most important permanent crops in terms of planted area, production and yield. Previous censuses and surveys did not measure these variables for permanent crops, therefore no time series analysis is made in this section.

The area of smallholders planted with permanent crops was 42,852 hectares (14% of the area planted with annual crops in the region). However, the area planted with annual crops is not the actual physical land area as it doubles counts the area planted more than once during the year, whilst the planted area for permanent crops is the same as physical land area. So the percentage of physical area planted with permanent crops may be higher than indicated in Chart 3.49.



The most important permanent crop in Kigoma region was banana which had a planted area of 20,503 ha, (47.8% of the planted area of all permanent crops) followed by palm oil (10,287 ha, 24.0%), mango (7,376 ha, 17.2%). The remaining permanent crops collectively had a planted area of 4688 ha (11.0%) (Chart 3.50 and Map 3.26 and 3.27).

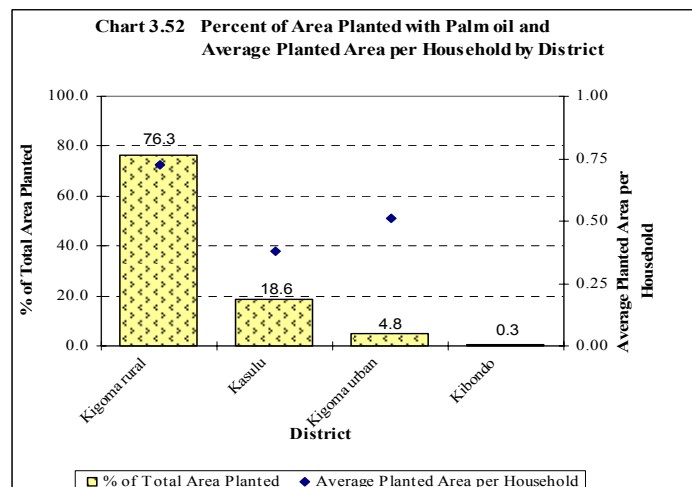
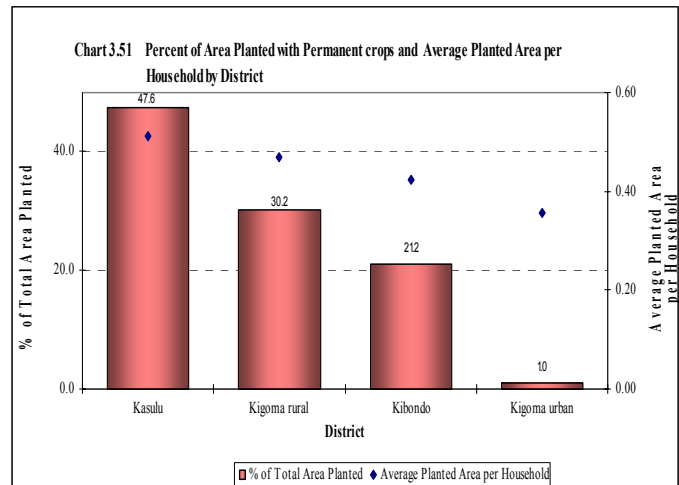
Kasulu district had the largest area under smallholder permanent crops (20,389 ha, 47.6%). This was followed by Kigoma rural (12,945 ha, 30.2%), Kibondo (9,073 ha, 21.2%) and Kigoma urban (446 ha, 1.0%). Kasulu had the largest area per permanent crop growing household (0.51 ha) followed by Kigoma rural (0.47 ha), Kibondo (0.42 ha) and Kigoma urban (0.036 ha). (Chart 3.50).

In terms of area of permanent crops planted expressed as a percentage of the total area planted with crops per district, Kasulu had the highest (17.1%) followed by Kigoma urban (16.6%), Kigoma rural (15.5%) and Kibondo (15.2%).

3.4.1 Palm Oil

The total production of palm oil by smallholders was 40,507 tonnes. In terms of area planted, palm oil was the second important permanent crop grown by smallholders in the region. They were grown by 15,819 households (8.1% of the total crop growing households). The average area planted with palm oil per household was relatively big at around 0.65 ha per palm oil growing households

Kigoma rural had highest percentage in region with (12,016 ha, 76.3%), followed by Kasulu (2,922 ha, 18.6%), There was small amount of palm oil production in the remaining districts (Chart 3.52).



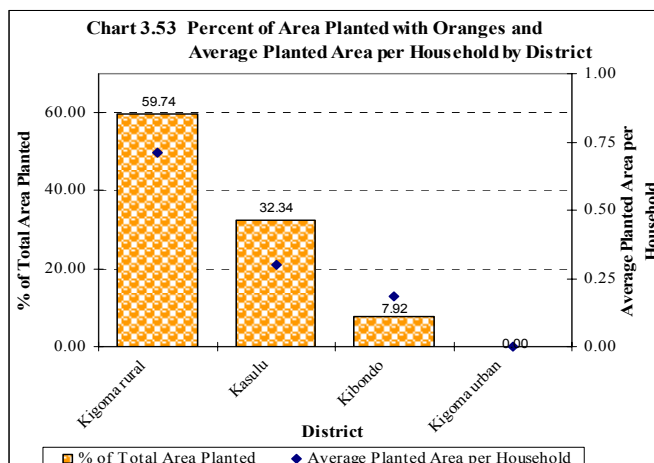
3.4.2 Oranges

The total production of oranges by smallholders was 5,559 tonnes. In terms of area planted, orange was the seventh most important permanent crop grown by smallholders in the region. It was grown by 2132 households (1.1% of the total crop growing households). The average area planted with oranges per household was relatively small at around 0.43 ha per orange growing household and the average yield obtained by smallholders was 9,422 kg/ha from a harvest area of 590 hectares.

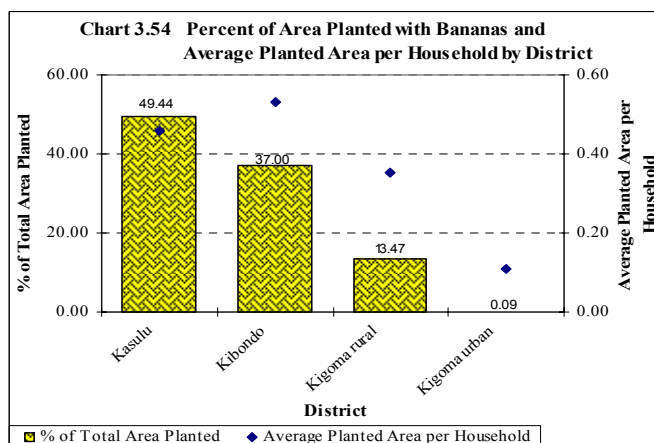
Kigoma rural had the largest area of oranges in the region (543 ha, 59.7%) followed by Kasulu (294 ha, 32.3%), Kibondo (72 ha, 7.9%) and Kigoma urban had no production. The average area planted with oranges per orange planting household was highest in Kigoma Urban (0.49 ha) (Chart 3.53).

3.4.3 Banana

The total production of banana by smallholders was 95,828 tonnes. In terms of area planted, banana was the first most important permanent crop grown by smallholders in the region. It was grown by 44,445 households (22.8% of the total crop growing households). The average area planted with banana per household was relatively small at around 0.5 per banana growing household and the average yield obtained by smallholders was 1077 kg/ha from a harvested area of 8891 hectares Map 3.27.

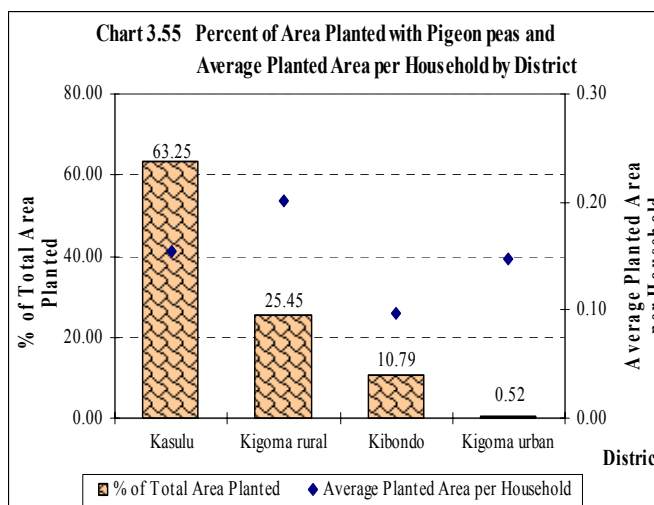


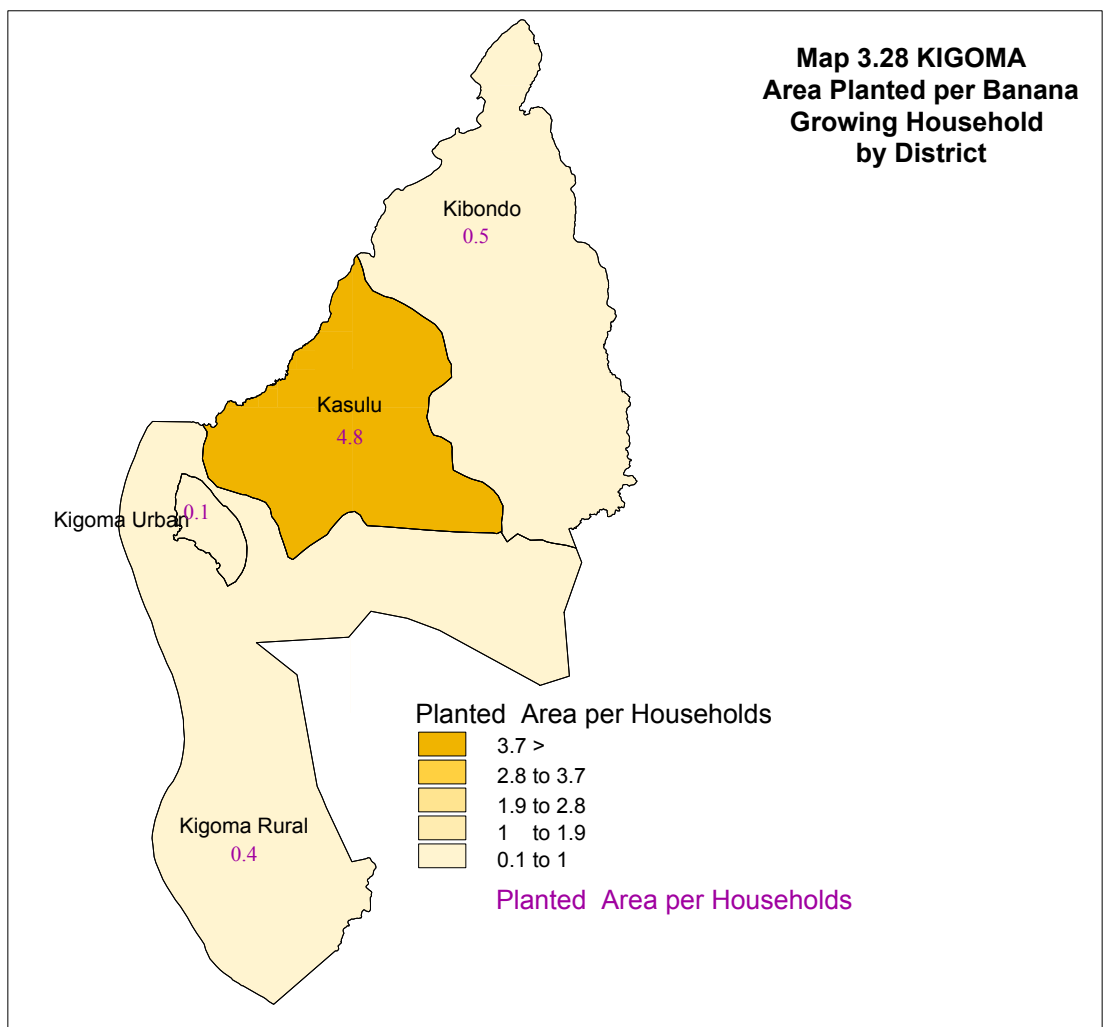
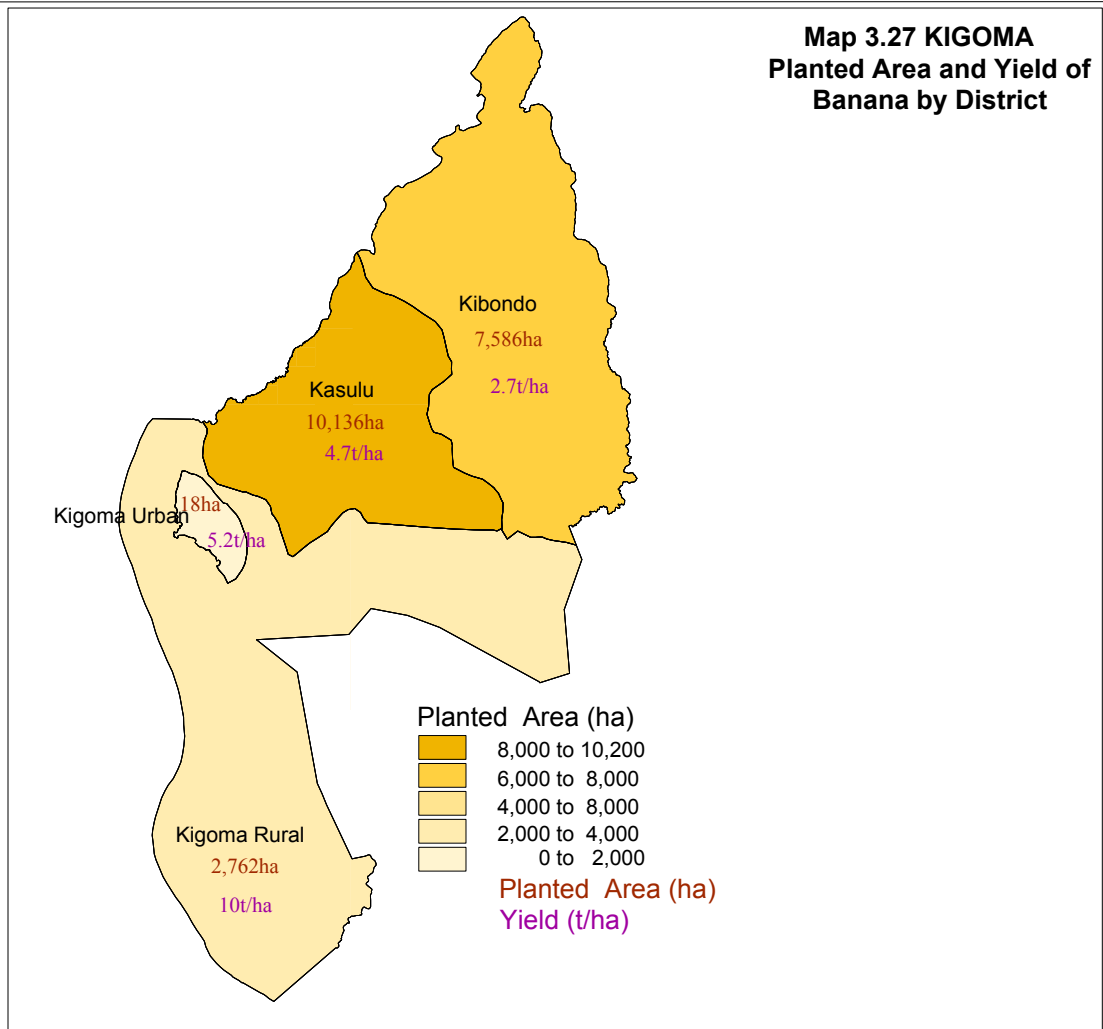
Kasulu had the largest planted area of bananas in the region (10,136 ha, 49.4%) followed by Kibondo (7,586 ha, 37.0%), Kigoma rural (2,762 ha, 13.5%), and Kigoma urban (18 ha, 0.1%). However, the area planted with banana per banana growing household was highest in Kibondo (0.53 ha), followed by Kasulu (0.46 ha), Kigoma rural (0.35 ha) and Kigoma urban (0.11 ha) (Chart 3.54 and Map 3.28).



3.4.4 Pigeon Pea

In terms of area planted, pigeon pea was the sixth most important permanent crop grown by smallholders in the region. It was grown by 6,214 households (3.2% of the total crop growing households). The average area planted with pigeon pea per household was relatively small at around 0.2 ha per pigeon pea growing household. Kasulu had the largest planted area of pigeon pea in the region (604 ha, 63.3%) followed by Kigoma rural (243 ha, 25.5%), Kibondo (103 ha, 10.8%), and Kigoma urban (5 ha, 0.5%). (Chart 3.55)





3.5 Inputs/Implements Use

3.5.1 Methods of Land Clearing

Land clearing is a common pre-tillage operation practiced by most farmers in the region. Land clearing is divided into two categories: bush clearing, which by definition implies either expansion into virgin areas or into areas which have been left fallow for a long period while the other category, which includes burning, hand slashing or tractor slashing, is normally an annual clearing exercise to remove vegetation growth from the previous season.

Hand slashing is the most widely used method used for land clearing.

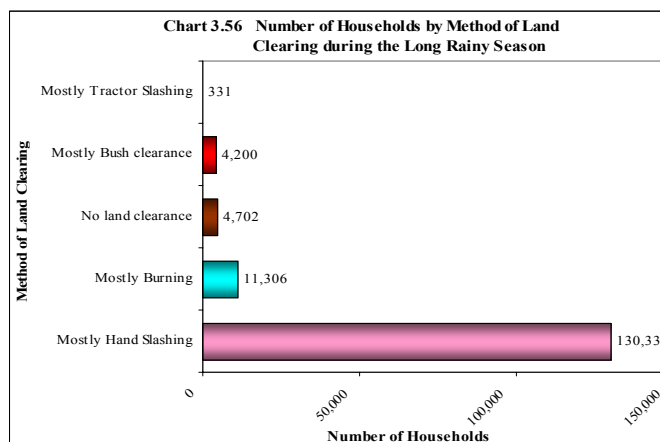
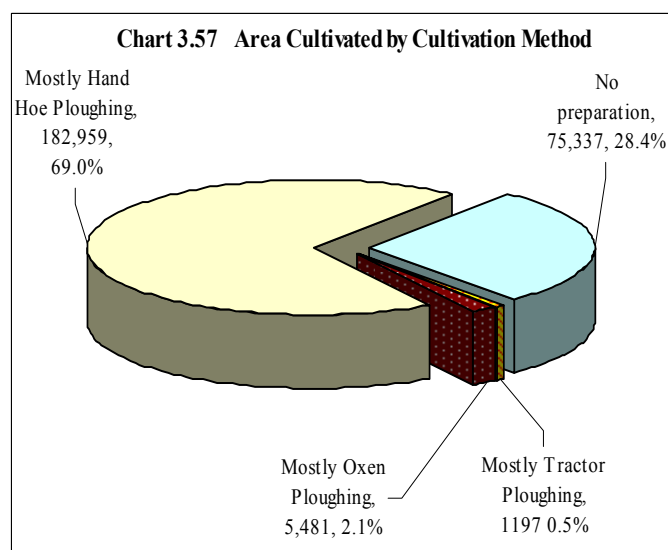


Table 3.8: Land Clearing Methods

Method of Land Clearing	Long Rainy Season			Short Rainy Season			Total	
	Number of Households	Area Planted	%	Number of Households	Area Planted	%	Area Planted	%
Mostly Hand Slashing	130,331	37,155	23.4	156,202	121,821	76.6	158,976	100.0
Mostly Burning	11,306	3,716	24.2	13,576	11,613	75.8	15,329	100.0
No Land Clearing	4,702	1,292	24.7	5,124	3,945	75.3	5,237	100.0
Mostly Bush Clearance	4,200	1,621	18.4	7,956	7,206	81.6	8,827	100.0
Mostly Tractor Slashing	331	50	19.5	290	207	80.5	257	100.0
Total	150,870	43,834	23.2	183,148	160,357	76.8	188,626	100.0

3.5.2 Methods of Soil Preparation

Hand cultivation is the most used method for soil preparation and was used on an area of 182,959 ha which represented 69.0 percent of the total planted area, followed by ox-ploughing (5,481 ha, 2.6%) and tractor ploughing (1197 ha, 0.5%). More hand cultivation was used during short rainy season at 77.1% against 22.9% for the long rainy season, similarly oxen ploughing was more common in the short rainy season with 67.6% against 32.4% in the long rainy season. On the otherhand tractor ploughing was used more during the long rainy season of 74.4% during the short rainy season.

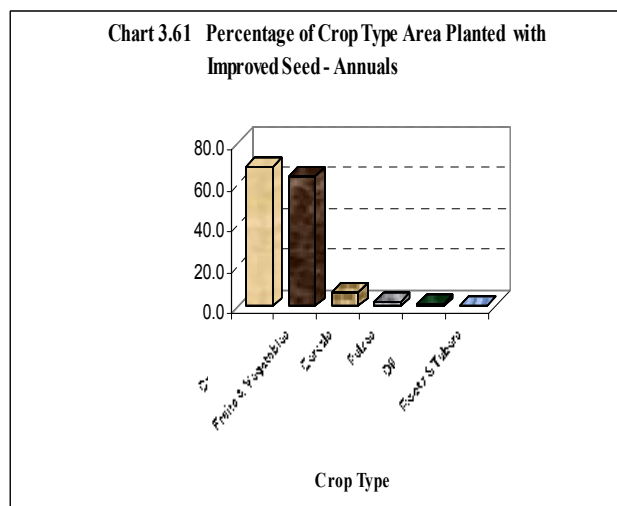
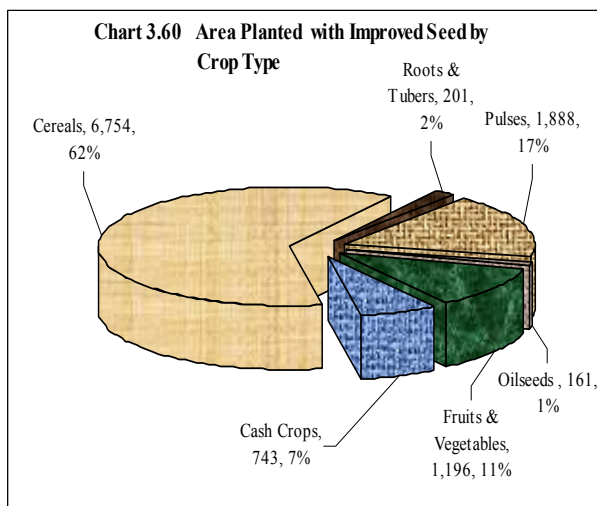
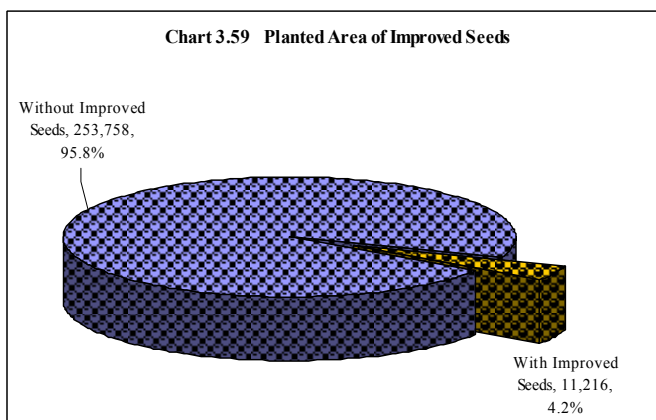
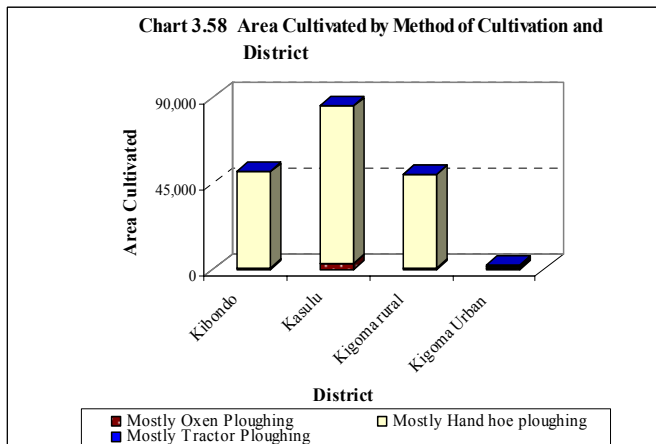


In Kigoma region, Kasulu district had the largest planted area cultivated by hand hoe oxen (82,402 hectares, 44.9%) followed by Kibondo (50,757 ha, 27.7%), Kigoma rural (49,223, 26.8%) and Kigoma Urban (1,173 ha, 0.6%),

3.5.3 Improved Seeds Use

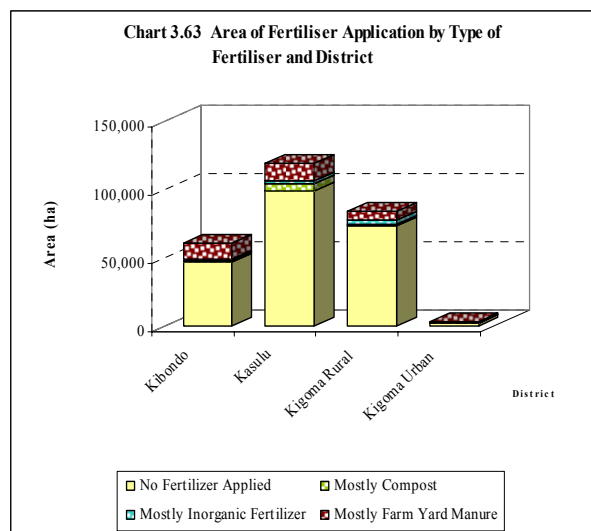
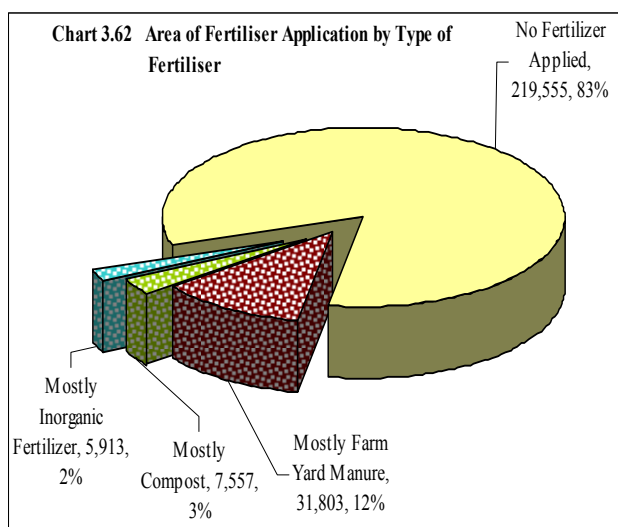
The planted area using improved seeds was estimated at 11,216 ha which represented 4.2 percent of the total planted with the annual crops and vegetables area. The percentage use of improved seed in the short rainy season was 6.1 percent, and higher than the corresponding percentage uses for the long rainy season at 2.0 percent

Cereals had the largest area planted with improved seeds (6754 ha, 62% of the area planted with improved seeds) followed by pulses (1888 ha, 17%), fruits and vegetables (1196 ha, 11%), cash crops (743 ha, 7%), roots and tubers (201 ha, 2%) and oil seeds and nuts (161 ha, 1.0%) (Chart 3.60). However, the use of improved seed in cash crops and fruits and vegetables is much greater than in other crop types (68.2% and 63.5% respectively). Only 0.3 percent of the planted area for roots and tubers used improved seed (Chart 3.61).



3.5.4 Fertilizer Use

The use of fertilisers on annual crops is very small with a planted area of only 45,273 ha (17.1 of the total planted area in the region). The planted area without fertilisers for annual crops was 219,555 hectares representing 82.9 percent of the total planted area with annual crops. Of the area planted with fertiliser application, farm yard manure was applied to 31,802 ha which represents 12 percent of the total planted area (70.9% of the area planted with fertiliser application in the region). This was followed by mostly compost (7,557 ha, 3%) and mostly inorganic (5,913) representing only 2 percent of the total planted area

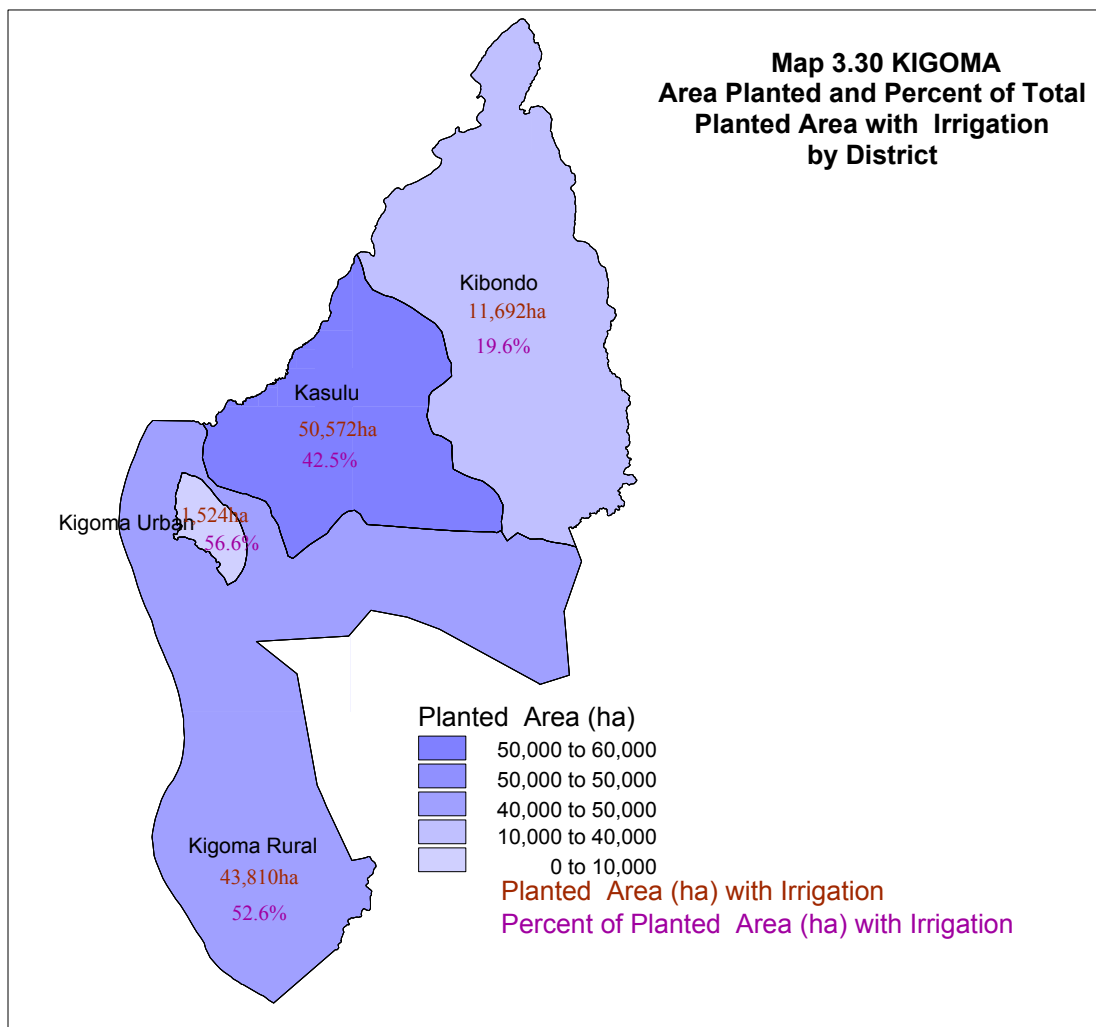
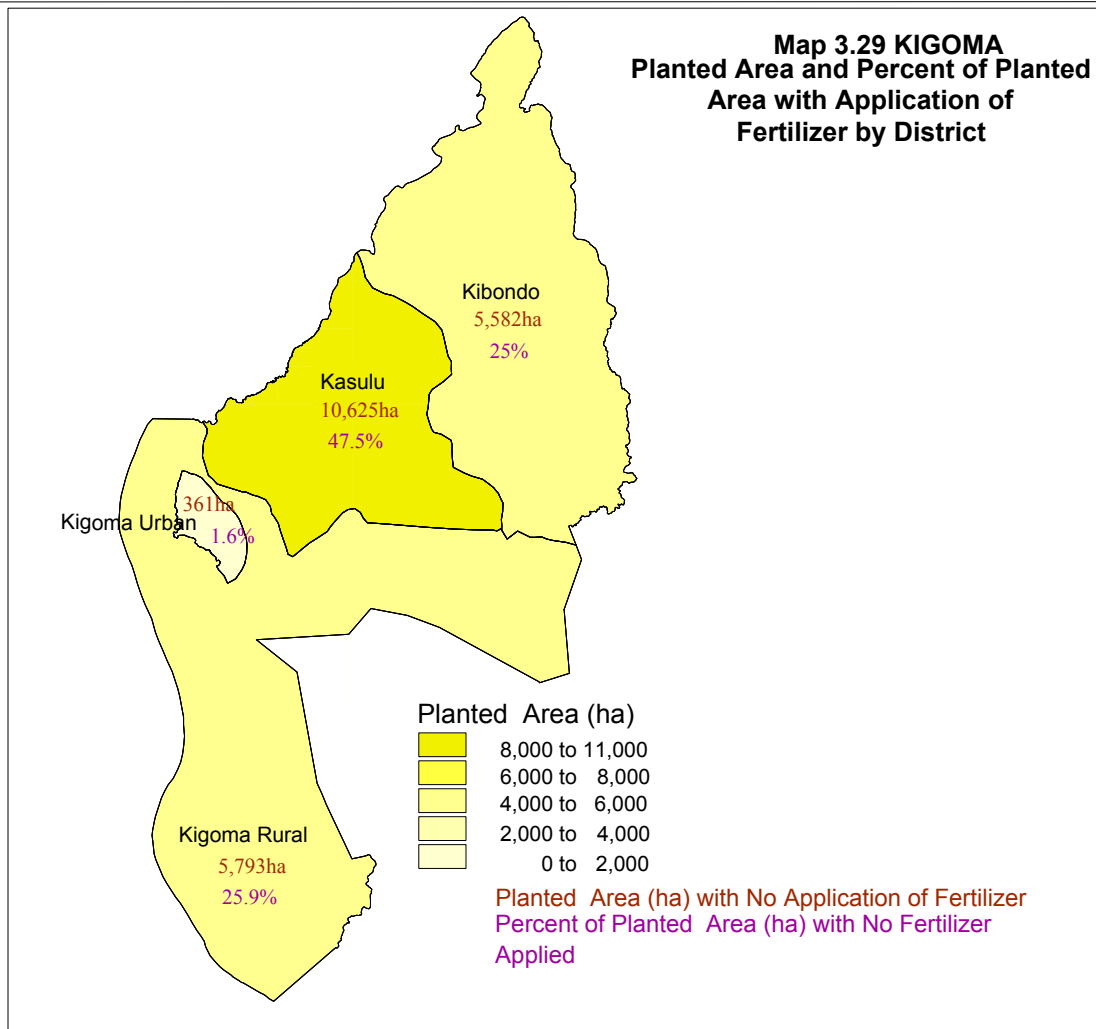


The highest percentage of the area planted with fertilizer (all types) was in Kasulu district (48.9%) followed by Kibondo (27.9%), Kigoma rural (20.8%) and Kigoma urban (2.4%) (Table 3.9) Map 3.29

Table 3.9 Number of Crop Growing Households and Planted Area by Fertilizer use and District during Long and Short Rainy Season

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	12,518	10,779	1,716	918	1,640	1,188	77,696	46,859	93,571	59,744
Kasulu	20,039	14,854	7,074	6,834	2,153	934	177,089	96,462	206,355	119,085
Kigoma Rural	8,360	6,294	4,597	1,450	5,776	1,876	147,825	73,687	166,558	83,307
Kigoma Urban	1,338	875	272	133	266	114	4,186	1,570	6,062	2,692
Total	42,254	32,803	13,659	9,335	9,835	4,113	406,797	218,578	472,546	264,828

Most annual crop growing households do not use any fertiliser (approximately 406,797 households, 86.1%). The percentage of the planted area with applied fertiliser was highest for root and tubers (70% of the area planted with these



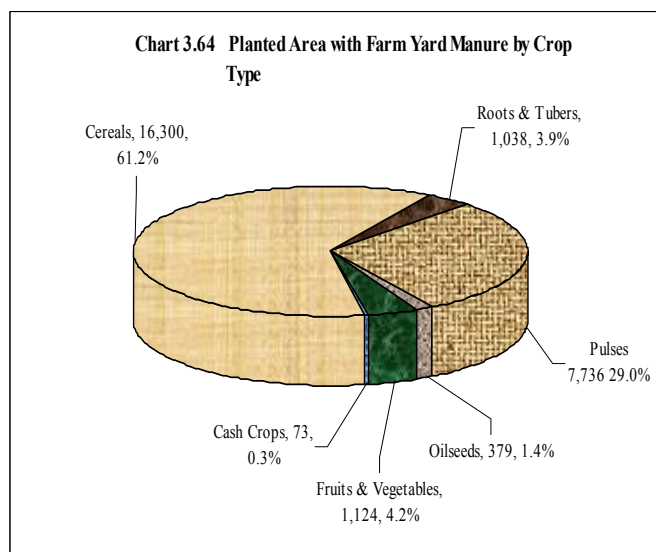
root and tubers during the long rainy season had an application of fertilizers). This was followed by cereals (19%), pulses (8%), fruits and vegetables (2.1%) cash crops and oil seeds (0.3%). (Table 3.10).

Table 3.10 Number of Crop Growing Households and Planted Area by Fertilizer use and District- LONG RAINY SEASON

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	3,342	846	658	139	753	103	37,677	12,454	42,429	13,542
Kasulu	5,917	2,348	2,559	1,968	1,177	179	118,092	49,070	127,745	53,565
Kigoma Rural	3,261	960	3,340	835	3,900	831	103,978	48,265	114,478	50,890
Kigoma Urban	906	667	203	123	199	30	2,821	868	4,130	1,688
Total	13,425	4,820	6,760	3,064	6,029	1,144	262,568	110,656	288,782	119,685

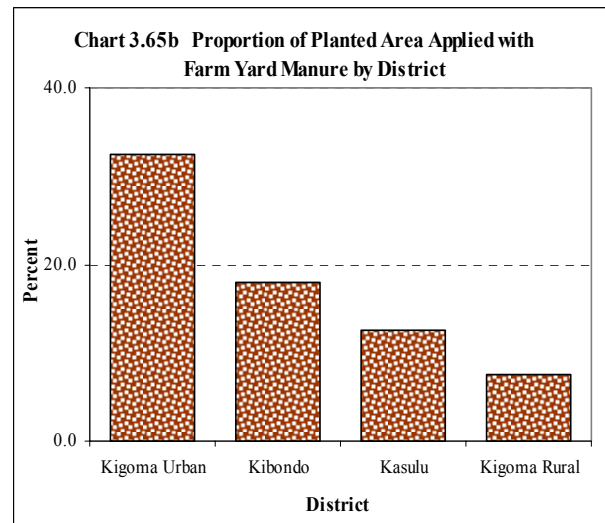
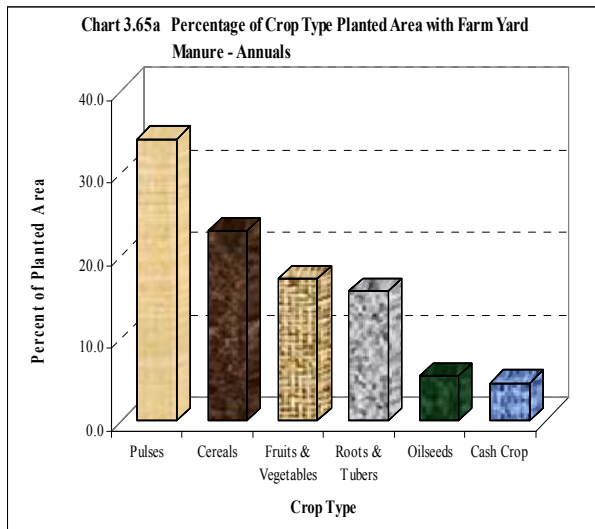
3.5.4.1 Farm Yard Manure Use

The total planted area applied with farm yard manure in Kigoma region was 32,803 ha. The number of households that applied farm yard manure in their annual crops during the long rainy season was 13,425 and it was applied to 4,820 ha representing 14.7 percent of the total area planted during that season (Table 3.10). Cereals had the highest percent of the total area planted with applied farm yard manure (61.2%), followed by Pulses (29.0%), Fruits & Vegetables (4.2%), Roots & Tubers (3.9%), Oil seeds (1.4%) and Cash crops (0.3%). However, pulses had the highest percent of the proportion of planted area with farm yard manure (34.1% of the total area of pulses in Kigoma).



This was followed by cereals (23.0%), fruits & vegetables (17.2%), roots & vegetables (15.7%), oil seeds (5.4%) and cash crops (4.6%) (Chart 3.65a).

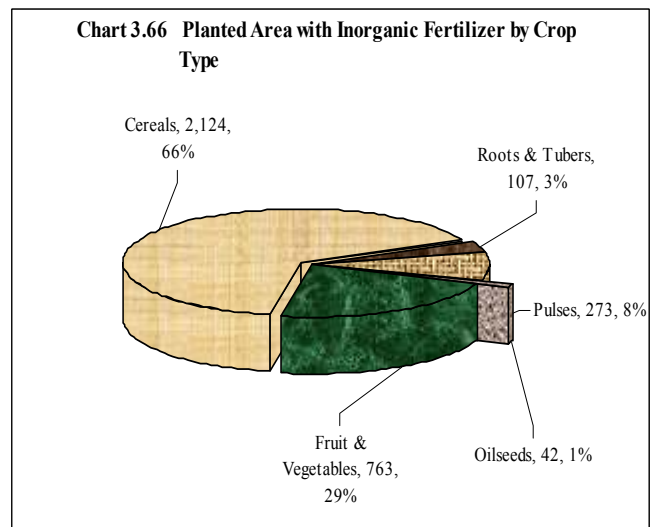
Farm yard manure is mostly used in Kigoma urban (32.5% of the total planted area in the district), followed by Kibondo (18.0%), Kasulu (12.5%) and Kigoma rural (7.6%) (Chart 3.65b). map 3.81



3.5.4.2 Inorganic Fertiliser Use

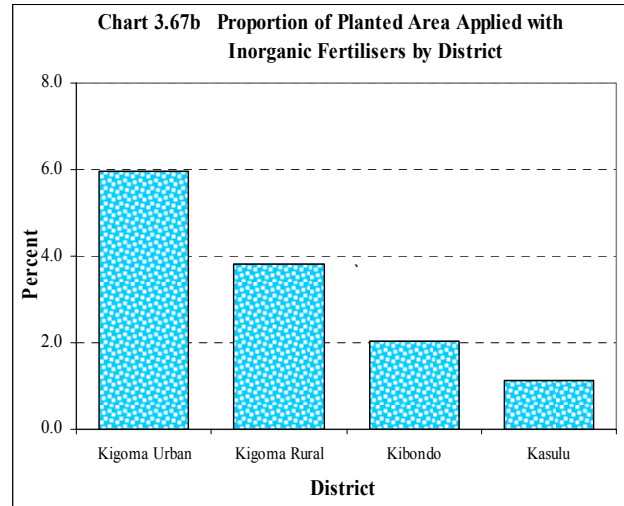
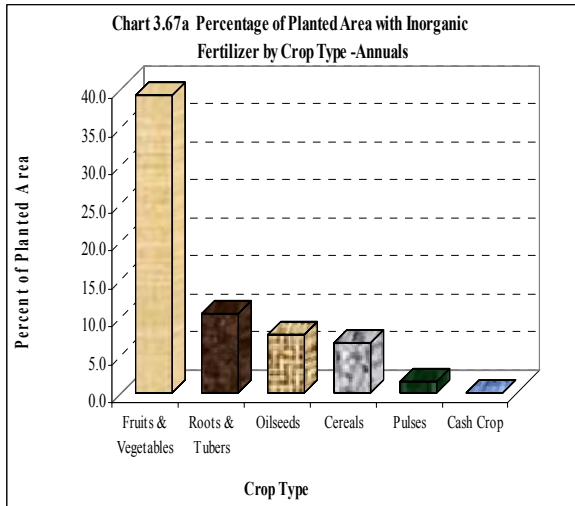
The total planted area applied with inorganic fertilisers in Kigoma region was 3,649 ha which represents 1.3 percent of the total planted area with annuals in the region and 9.3 percent of the total planted area with fertiliser.

The number of households that applied inorganic fertilizer on their annual crops during the long rainy season was 6,029 and it was applied to 1,144 ha representing 0.9 percent of the total area planted during that season (Table 3.10). The largest area applied with inorganic fertilizers was on cereals (66% of the total area applied with inorganic fertilizers), followed by fruits & vegetables (29%), pulses (8%), roots and tubers (3%), pulses (7%) and oil seeds (1%). (Chart 3.66).



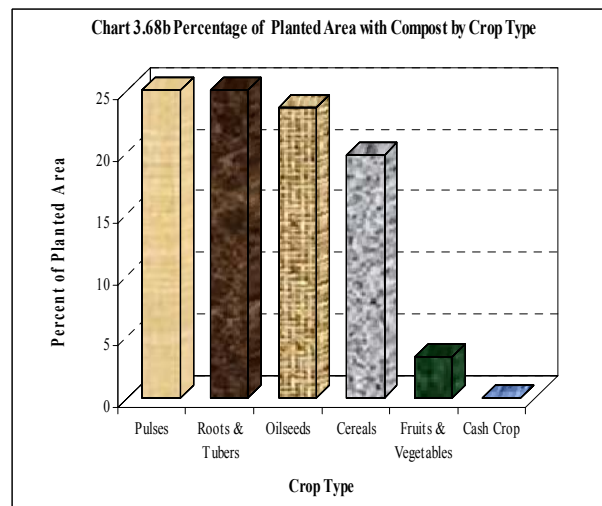
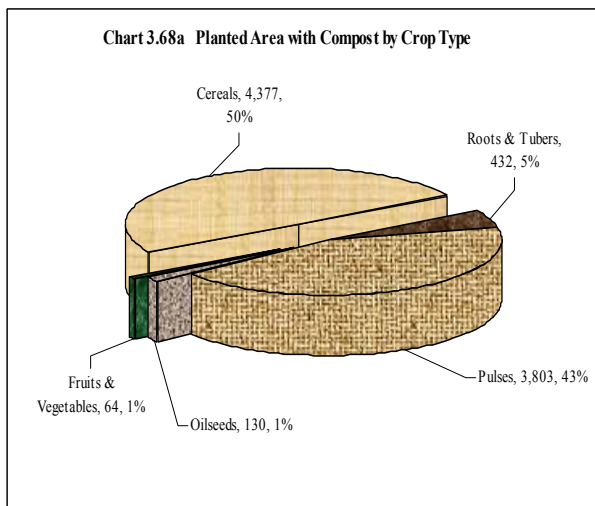
However, the proportion of fruit and vegetables with inorganic fertilizers was 39.1 percent higher than other crop types, followed by roots & tubers (10.5%), oil seeds (7.6%), cereals (6.6%) and pulses (1.5%) (Chart 3.67a).

Inorganic fertiliser is mostly used in Kigoma urban (6.0% of the total planted area in the district), followed by Kigoma rural (3.8%), Kibondo (2.0%) and Kasulu (1.1%) (Chart 3.67b).



3.5.4.3 Compost Use

The total planted area applied with compost was 12,491 ha which represents only 4.7 percent of the total planted area with annual crops in the region and 31.9 percent of the total planted area with fertiliser in the region. The number of households that applied compost manure on their annual crops during the long rainy season was 6,760 and it was applied to 3064 ha representing 2.5 percent of the total area planted (Table 3.10 and Chart 3.68a). The proportion of area applied with compost was low for each type of crop; however the distribution of the total area using compost manure shows that 32 percent of this area was cultivated with pulses, followed by roots & tubers (26%), oil seeds (24%), cereals (20%) and fruits & vegetables (3%). (Chart 3.68b).

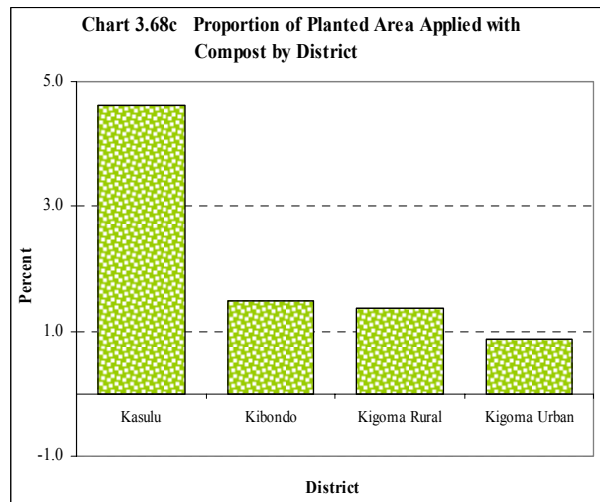


Compost is mostly used in Kasulu (4.6% of the total planted area in the district), followed by Kibondo (1.5%), Kigoma rural (1.4%) and Kigoma urban (0.9%) (Chart 3.68c). Map 3.32

3.5.5 Pesticide Use

Pesticides are chemicals used for controlling insects, diseases and weeds. This section analyses the use of these chemicals by smallholders on both annual and permanent crops in the region. Pesticides were applied to a planted area of 21,818 ha of annual crops and vegetables.

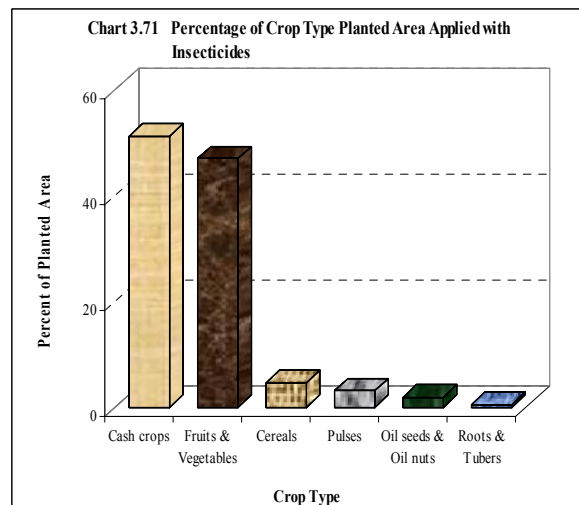
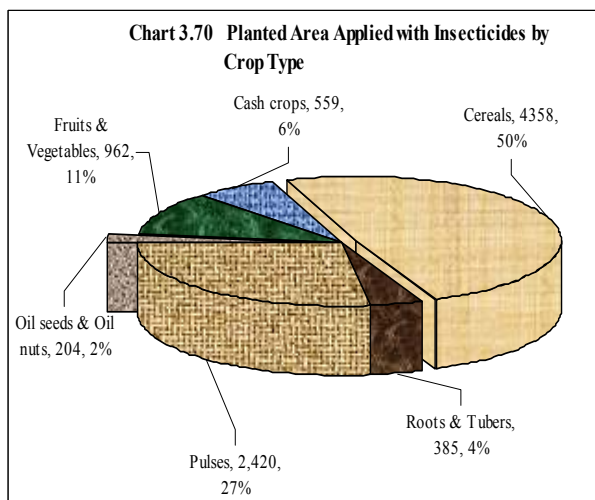
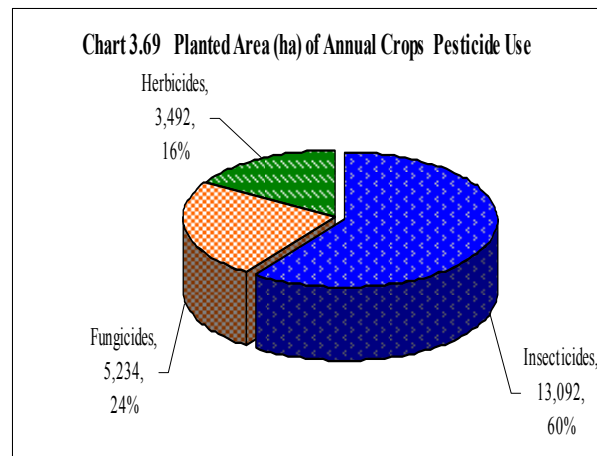
Insecticides are the most common pesticide used in the region (60% of the total area applied with pesticides). This was followed by fungicides (24%) and herbicides (16%) (Chart 3.69).

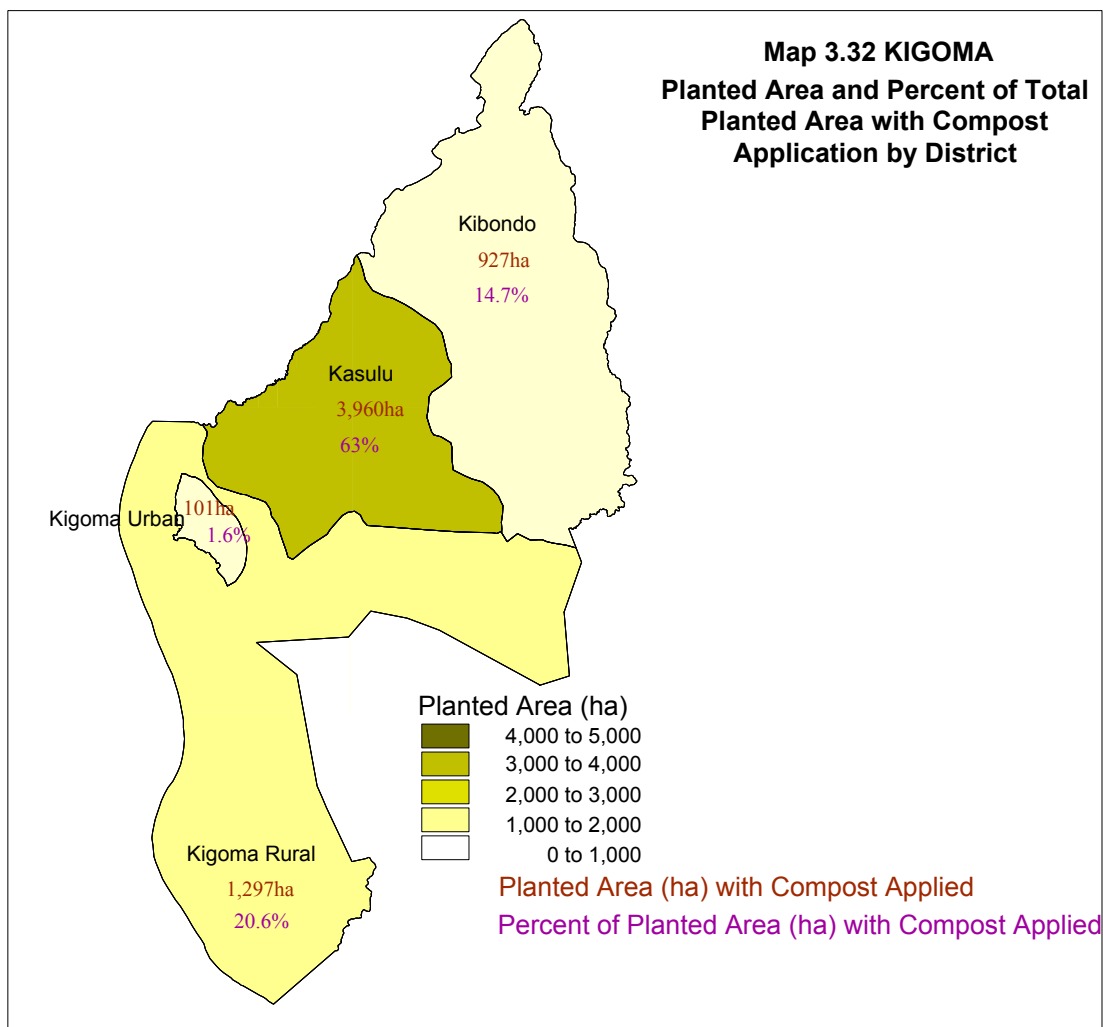
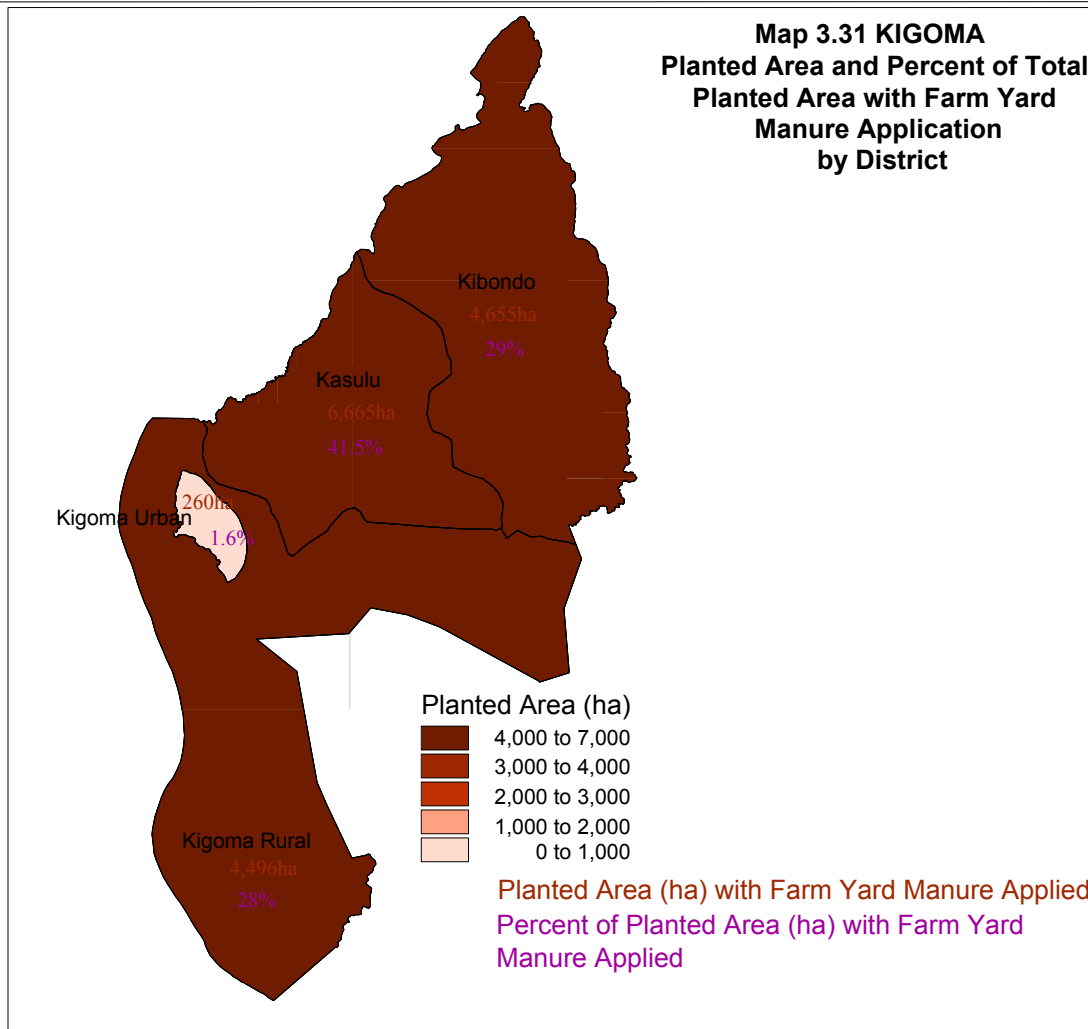


3.5.5.1 Insecticide Use

The planted area applied with insecticides was estimated at 13,092 ha which represented 60 percent of the total planted area for annual crops and vegetables.

Cereal crops had the largest planted area applied with insecticides (4358 ha, 50%) of the total planted area with insecticides followed by pulses (2,420 ha, 27%), fruits & vegetables (962 ha, 11%), cash crops (559 ha, 6%) roots & tubers (385 ha, 4%) and oil seeds & oil (204 ha, 2%). (Chart 3.70). However, the proportion of planted area applied with insecticides was largest for cash crops(51%), fruits/vegetables (47%), cereals (5%), pulses (3%), Only 2 percent the area planted with oil seeds & tubers was applied with insecticides (Chart 3.71).



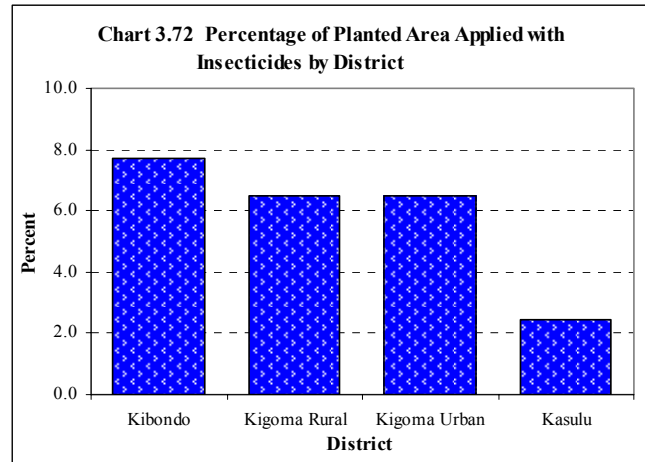


Annual crops with more than 50 percent insecticide use were spinach, cucumber, cotton, water melon, tomatoes, onions, cabbage, field peas, and chillies.

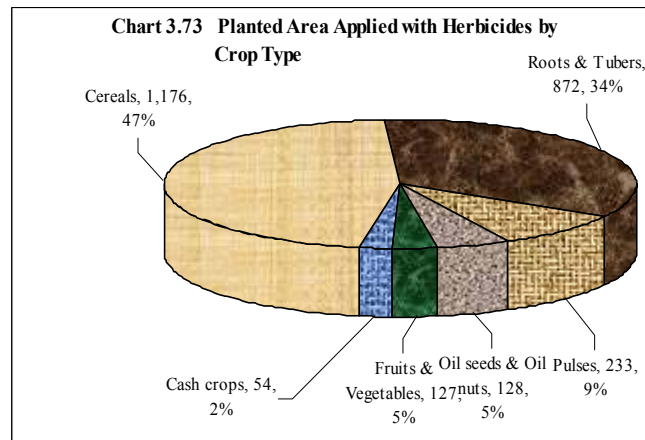
Kibondo had the highest percent of planted area with insecticides (7.7% of the total planted area with annual crops in the district). This was followed by Kigoma rural and Kigoma urban both had (6.5%) and the smallest percentage use was recorded in Kasulu district (2.5%) (Chart 3.72)

3.5.5.2 Herbicide Use

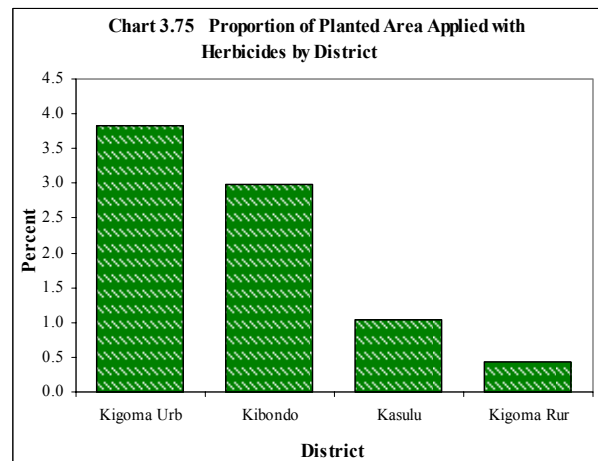
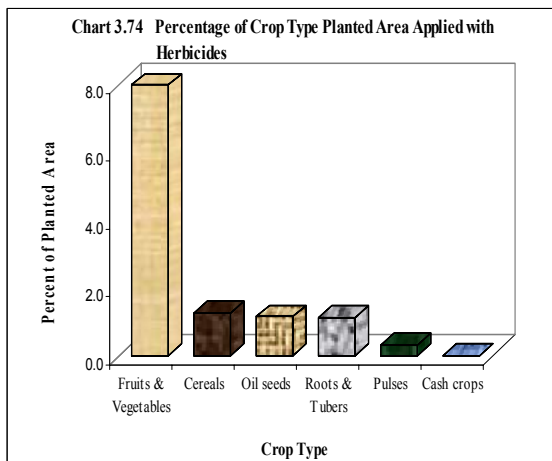
The planted area applied with herbicides was 2,544 ha which represented 0.9 percent of the total planted area annual crops and vegetables. Cereals had the largest planted area applied with herbicides (1176 ha, 47%) followed by roots & tubers (872 ha, 34%), pulses (233 ha, 9%), oil seeds (128 ha, 5%), fruits & vegetables (127 ha, 5%) and cash crops (54 ha, 2%) (Chart 3.73).



However, the proportion of the planted area applied with herbicides was greater for fruits/vegetables being 8.0%, cereals (1.2%), oil seeds and root & tubers both had (1.1%) and only 0.3 percent of pulses were applied with herbicides

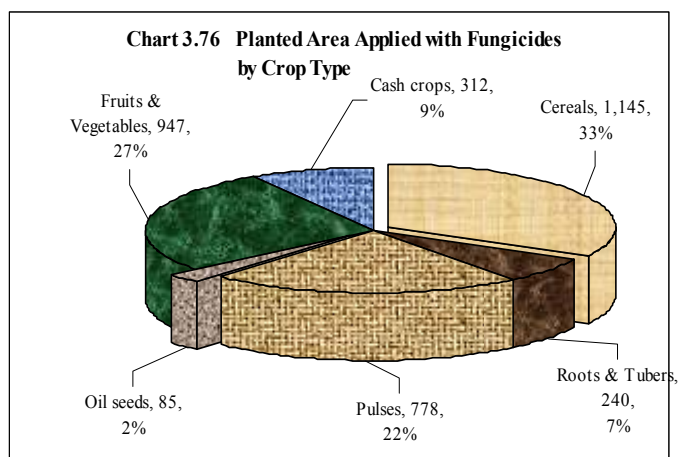


Kigoma urban had the highest percent of planted area with herbicides (3.8% of the total planted area with annual crops in the district). This was followed by Kibondo (3.0%), Kasulu (1.0%) and Kigoma rural district had less than (1%). 3.75).

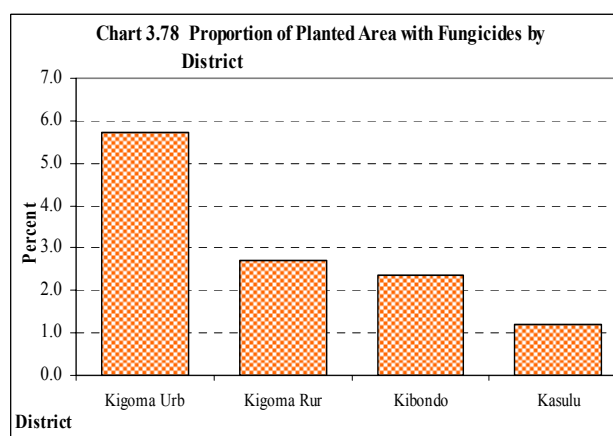
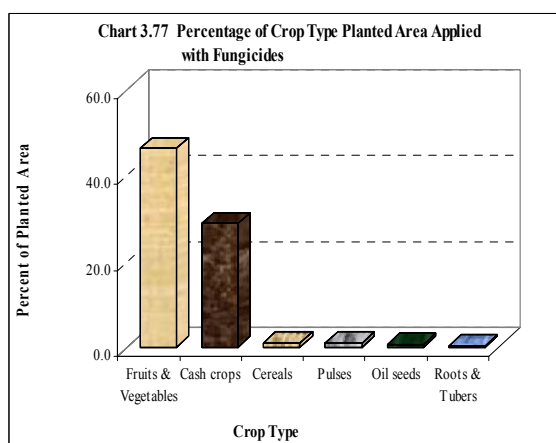


3.5.5.3 Fungicides Use

The planted area applied with fungicides was 3,507 ha which represented 1.3 percent of the total planted area for annual crops and vegetables. The percentage use of fungicides in the short rainy season at (0.6%) was higher than the corresponding percentage for the long rainy season (0.4%). Cereals had the largest planted area applied with fungicides (1,145 ha, 33%) followed by fruits & vegetables (947 ha, 27%), pulses (778 ha, 22%), cash crops (312 ha, 9%), roots & tubers (240 ha, 7%) and oil seeds (85 ha, 2%), (Chart 3.76).



However, the proportion of planted area applied with fungicides was greater in fruits and vegetables and cash crops than in other crop types being 46.3% for fruits & vegetables and 28.8% for cash crops, only 0.3% of roots & tubers was applied with fungicides (chart 3.77).



Kigoma urban had the highest percent of planted area with fungicides (5.7% of the total planted area with annual crops in the district). This was followed by Kigoma rural (2.7%), Kibondo (2.3%). The smallest percentage use was recorded in Kasulu district (1.2%) (Chart 3.78).

3.5.6 Harvesting Methods

The main harvesting method for cereals and other crops was reported to be by hand. Very small amounts of crops were harvested by machine.

3.5.7 Threshing Methods

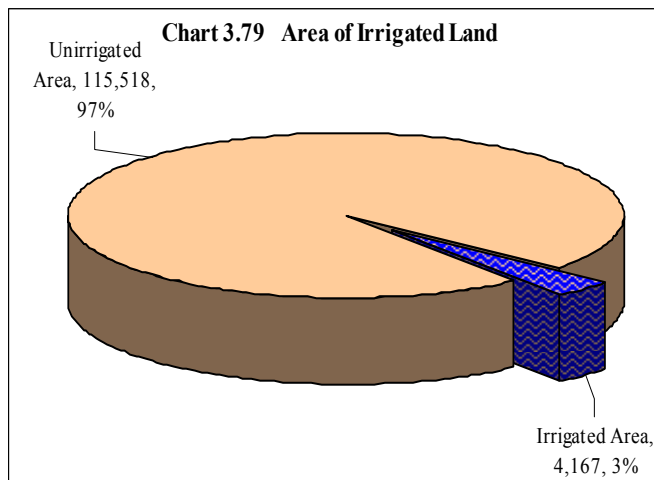
Hand threshing was the most common method used, with 99.4 percent of the total area planted with cereals during the long rainy season being threshed by hand. Draft animals, human powered tools and engine driven machines were only used on crops harvested by 0.6 percent of the total planted area respectively.

3.6 Irrigation

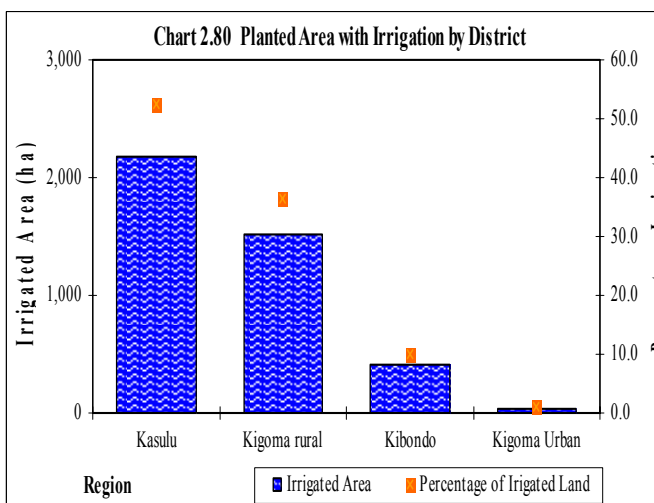
Water is the limiting factor to crop production in the majority of areas in Tanzania and without water most other agricultural practices applied to crops do not result in significant increases in yield. This section deals with the area under irrigation for different crops and the means by which water was extracted from the source and applied to the field.

3.6.1 Area Planted with Annual Crops and Under Irrigation

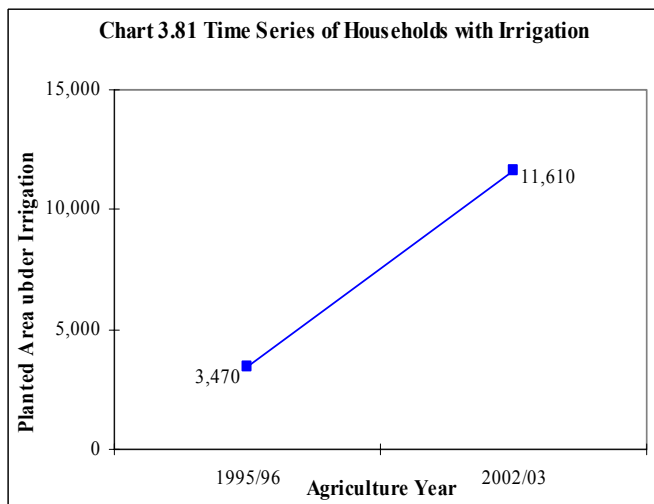
In Kigoma region, the area of annual crops under irrigation was 7,835 ha representing 3 percent of the total area planted (Chart 3.79). The area under irrigation during the long rainy season was 2,566 ha accounting for 32.8 percent of the total area under irrigation. In the short rainy season, 3.6 percent of the total area planted with crops was irrigated.



The district with the largest planted area under irrigation for annual crops was Kasulu (2,186 ha, 52.6% of the total irrigated planted area with annual crops in the region). This was followed by Kigoma rural with (1,520 ha, 36.6%), Kibondo (409 ha, 9.8%) and Kigoma urban (42, 1.0%). When expressed as a percentage of the total area planted in each district, Kigoma rural had the highest with 92.3% of the planted area in the district under irrigation. This was followed by Kigoma urban (80.7%), Kasulu (79.2%), and Kibondo 71.9%) (Chart 3.80). Map 3.30

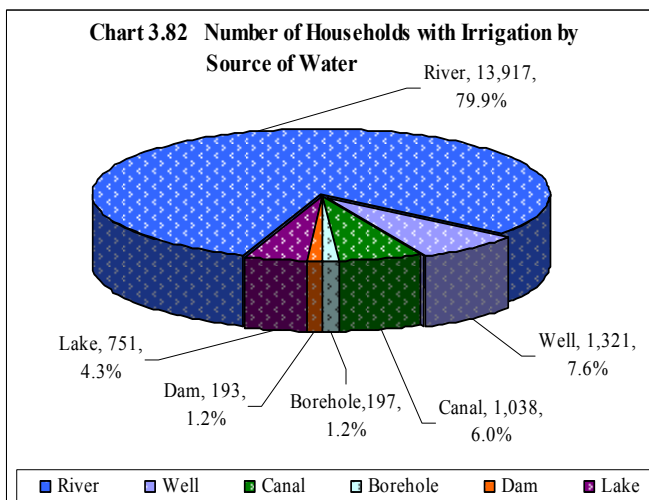


The Planted area with irrigation in Kigoma region appears to have increased over the 7 year period from 3,470 households in 1995/96 to to 11,410 households in 2002/03. (Chart 3.81)



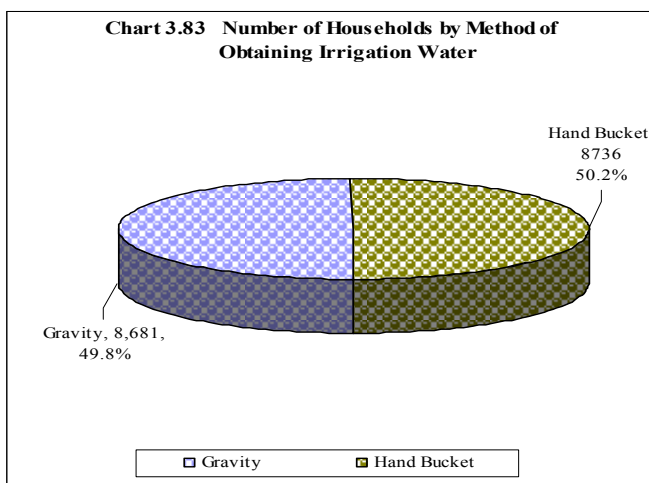
3.6.2 Sources of Water Used for Irrigation

The main source of water used for irrigation was from river (13,917 households, 79.9% of households with irrigation). This was followed by well (1,321 households, 7.6%), canal (1,038 households, 6.0%), lake (751, 4.3%), borehole (197 households 1.1%) and dam (193 households, 1.1%). (Chart 3.82)



3.6.3 Methods of Obtaining Water for Irrigation

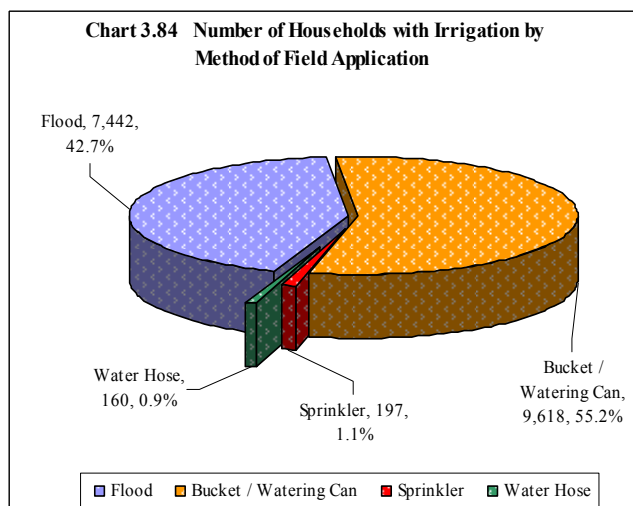
The hand bucket was the most common method of getting water for irrigation with 50.2 percent of households using this method. This was followed by gravity with 49.8 percent of households. The remaining methods (hand pump, motor pump and others) were not used (Chart 3.83).



The hand bucket was used most in Kigoma urban (100% of the households practicing irrigation) followed by Kigoma rural (77%), Kasulu (37%) and Kibondo (33%). Gravity was more common in Kibondo with 67 percent of households using the method to get water for irrigation, followed by Kasulu (63%) and Kigoma urban (0.0%).

3.6.4 Methods of Water Application

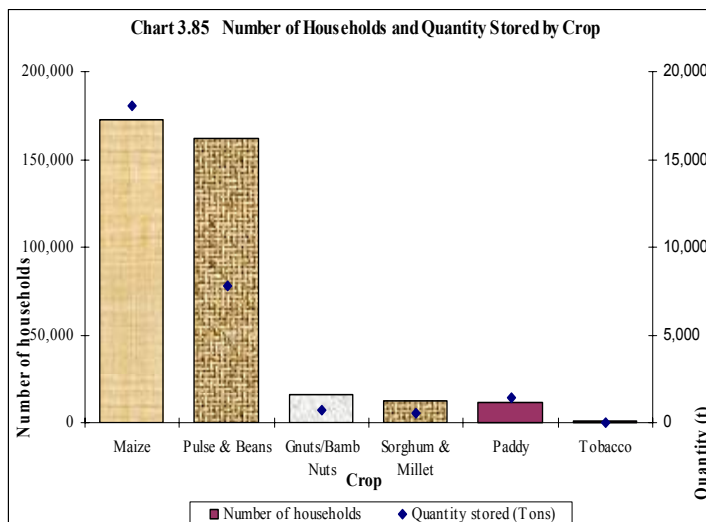
Most households (55.2% of households using irrigation) used bucket/ watering can as a method of field application. This was closely followed by flood (42.7%). Water hose and sprinkler were not widely used being 1.1% for sprinkler and 0.9% for the water hose.



3.7 Crop Storage, Processing and Marketing

3.7.1 Crop Storage

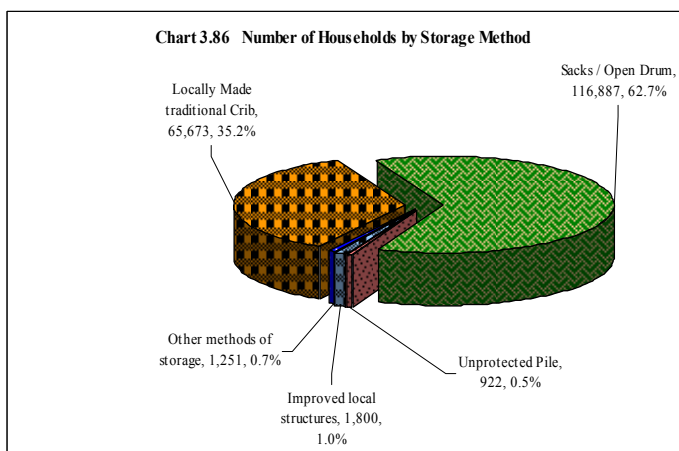
Crop storage means keeping a crop for a certain period of time as food for the household, in order to sell at higher prices or as seed for planting in the following season. The results for Kigoma region show that there were 186,533 crop growing households (95.8% of the total crop growing households) that stored various agricultural products in the region.



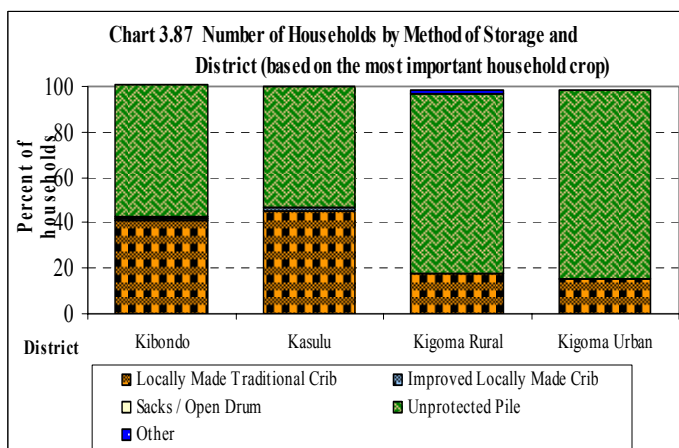
The most important stored crop was maize with 172,631 households storing 18,093 tonnes as of 1st January 2004. This was followed by beans and other pulses 162,195 households, 7,788 tonnes, groundnuts and bambara nuts 15,702 households, 712 tonnes, sorghum and millet with 12,747 households, 520 tonnes, paddy 1,803 households, 1,389 tonnes. Other crops were stored in very small quantities.

3.7.1.1 Methods of Storage

The number of households that stored their produce in sacks and/or open drums was 116,887 (62.7%). This was followed by locally made traditional structures 65,673 households (35.2%), improved local structures 1,800 households (1.0%), unprotected pile 922 (0.5%) and other methods of storage 1,251 households (0.7%).



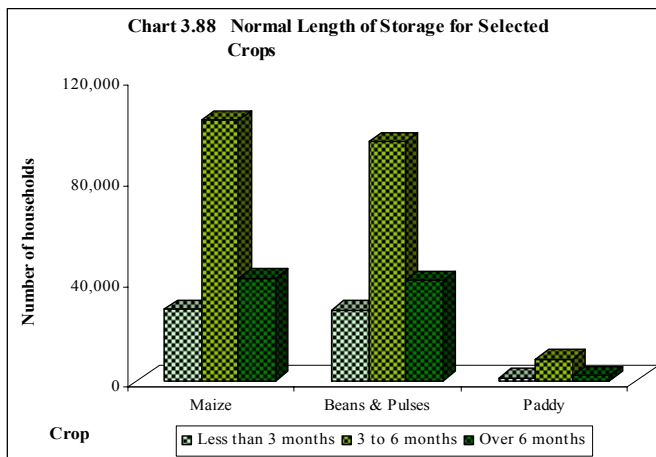
Sacks/Open drums were the dominant storage facilities in all districts with the highest percent in Kigoma urban district (83%) followed by Kigoma rural (79%), Kibondo (57%) and lastly Kasulu (53%), Chart 3.87) (Chart 3.87)



3.7.1.2 Duration of Storage

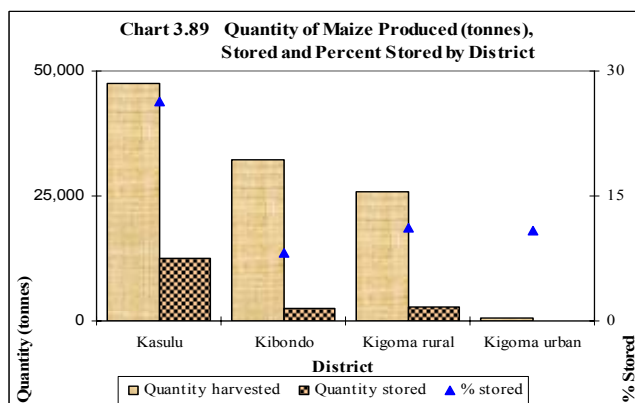
Most households (58.5% of the households storing crops) stored their produce for a period of 3 to 6 months followed by those who stored for a period of more than 6 months, (23.9%), and lastly those that stored their crops for a period of less than 3 less (17.5%).

Most households that stored pulses, stored them for a period of 3 and 6 months (58%), followed by over 6 months (24%), and a small number of households stored pulses for the period of less than 3 months (17%) (Chart 3.88)



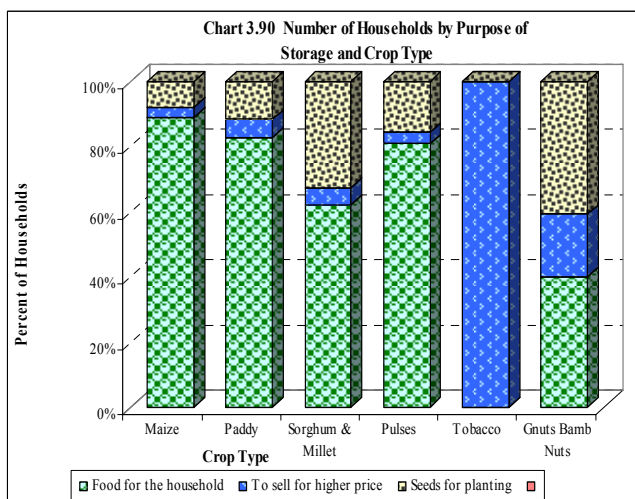
The proportion of households that stored their produce for the duration of 3 to 6 months was highest in Kigoma urban district (65.9%) followed by Kasulu (64.9%), Kigoma rural (52.5%) and Kibondo (31.4%). (Map 3.35)

District comparison of duration of storage cannot be done for all crops combined. However, the analysis has been done for maize only as it is the most commonly stored crop. In general, quantity stored was related to the quantity produced. Districts with greater production had a higher percent of their crop stored as on 1st October 2003 (Chart 3.89).



3.7.1.3 Purpose of Storage

Subsistence food crops i.e maize, paddy, sorghum and millet, beans and pulses are mainly stored for household consumption. The percent of households that stored maize with household consumption as the main purpose of storage was 89.0% followed by paddy (82.8%), pulses (80.8%) and sorghum & millet 62.0%, Practically all stored annual cash crops were stored for selling at a higher price



3.7.1.4 The Magnitude of Storage Loss

About 80.3 percent of households that stored crops had little or no loss, up to ¼ losses (13.6%), between ¼ and ½ loss (5.2%), over 1/2 loss (0.9%).

The number of households that reported little or no loss was largest for Kigoma urban district being about 87.8%, up to quarter loss Kibondo district had the highest percentage of 19.8%, between a quarter and half loss also Kigoma rural

and Kibondo districts recorded the highest percentage of 5.8% and 5.7% and for over a half loss the highest percentage was recorded in Kibondo district about 1.8 % (Table 3.10)

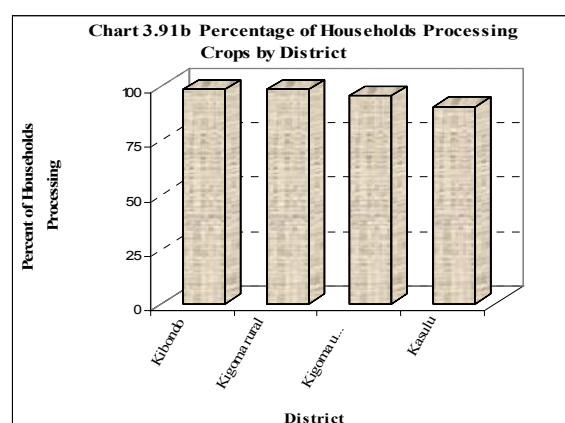
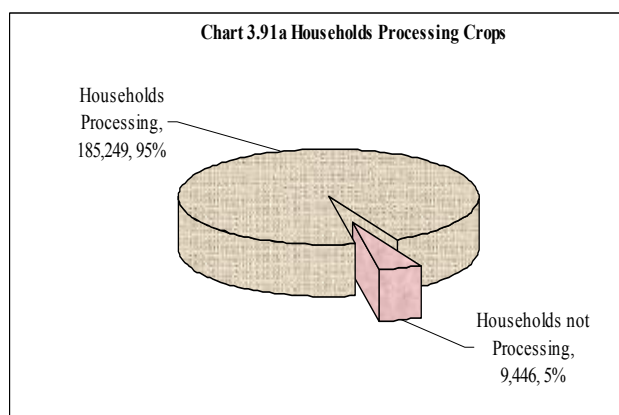
Table 3.10 ;CROP STORAGE: Number of Households Storing Crops by Estimated Storage Loss and District

District	Estimate Storage Loss				Total
	Little or no Loss	Up to 1/4 Loss	Between 1/4 and 1/2 Loss	Over 1/2 Loss	
Kibondo	36,302	9,883	2,849	917	49,951
Kasulu	64,578	8,567	3,523	592	77,260
Kigoma Rural	47,132	6,665	3,331	137	57,265
Kigoma Urban	1,923	200	67	0	2,190
Total	149,802	25,316	9,770	1,646	186,534

3.7.2 Agro processing and By-products

Agro processing refers to a process that converts a crop product from one form to another form in order to add value or increase the palatability of the crop. Agro-processing was practiced by 185,249 crop growing households in Kigoma region, (95% of the total crop growing households) (Chart 3.91a).

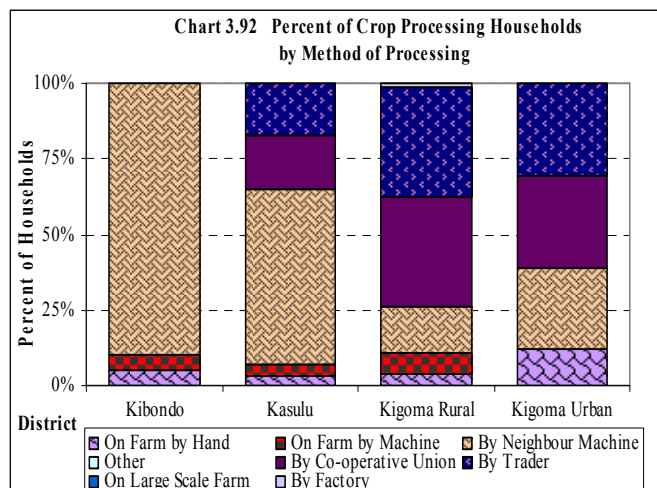
The percent of households processing crops was very high in each district being more than 80% (Chart 3.91b).



3.7.2.1 Processing Methods

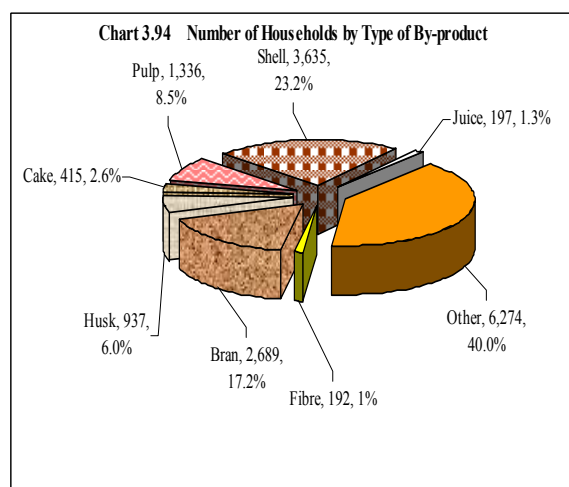
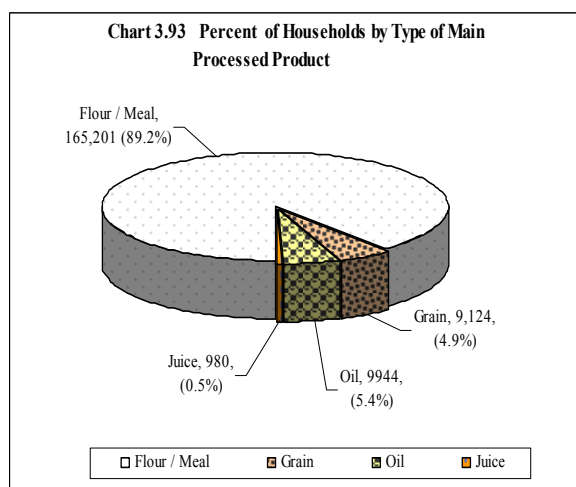
The households that processed their crops using neighbour's machines were the largest at 110,871 (59.8 % of the households that processed crops). They were followed by those processing by trader (51,088 households, 27.6%), on-farm by machine (12,618 households, 6.8%), on-farm by hand (9,241 households, 5.0%). The remaining methods of processing were used by 0.7% of the households.

Kibondo district had the a highest percent of processing by neighbouring machine (89.8%), followed by Kasulu district (57.8%), Kigoma urban (26.7%) and Kigoma rural (15.5%). Processing on farm by machine was more prevalent in Kigoma rural (72%) with the remaining districts having very few households (less than 5 percent). Whilst processing on farm by hand was more prevalent in Kigoma urban district (12.4%), followed by Kibondo (5.2%) with the remaining districts having less than 5% (Chart 3.92).



3.7.2.2 Main Agro-processing Products

Two types of products can be produced from agro-processing namely, the main product and the by-product. The main product is the major product after processing and the by-product is the secondary after processing. For example the main product after processing maize is normally flour whilst the bi-product is normally the bran.

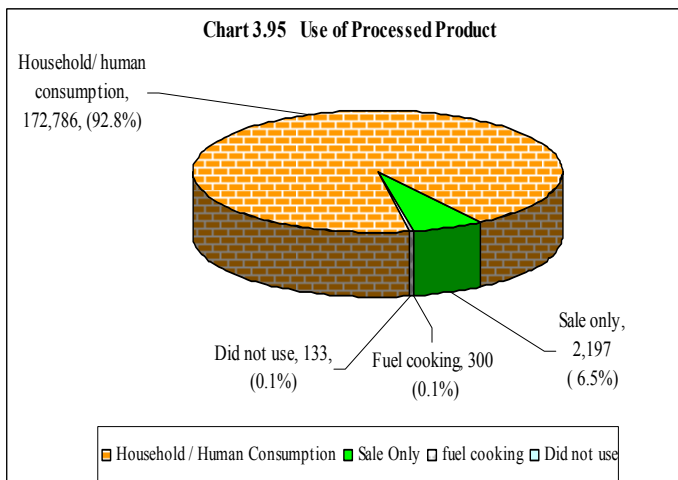


The main processed product was flour/meal with 165,201 households processing crops into flour (89.2%) followed by oil with 9,944 households (5.4%) and grain (9,124 households 4.9%) The remaining products were produced by a small number of households (0.5%). (Chart 3.93).

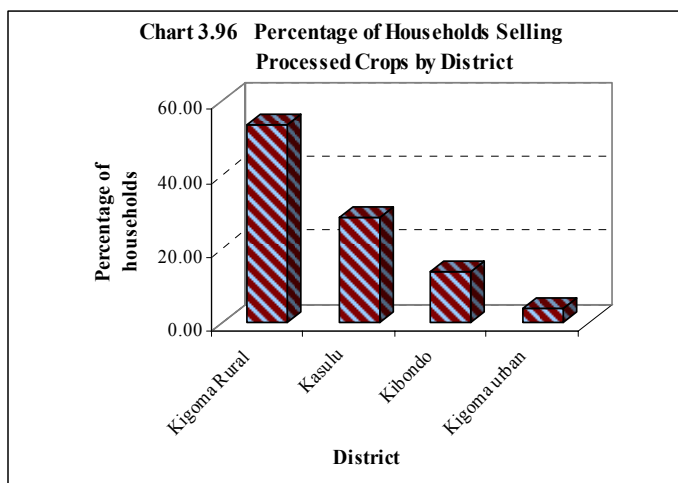
The number of households producing by-products accounted for 8.6% of the households processing crops. The most common by-product produced by crop processing households was shell with 3635 households (22.9% of the households producing by -products) followed by bran (2689 households, 16.9%), pulp (1336 households, 8.4%). (Chart 3.94).

3.7.2.3 Main Use of Primary Processed Products

Primary processed products were used for households or human consumption, for selling and for fuel cooking. The most important use was for household/human consumption which represented 92.8% of the total households that used primary processed product, followed by sales only (6.5%). The remaining uses of primary processed products accounted to 0.2% of the households (Chart 3.95).

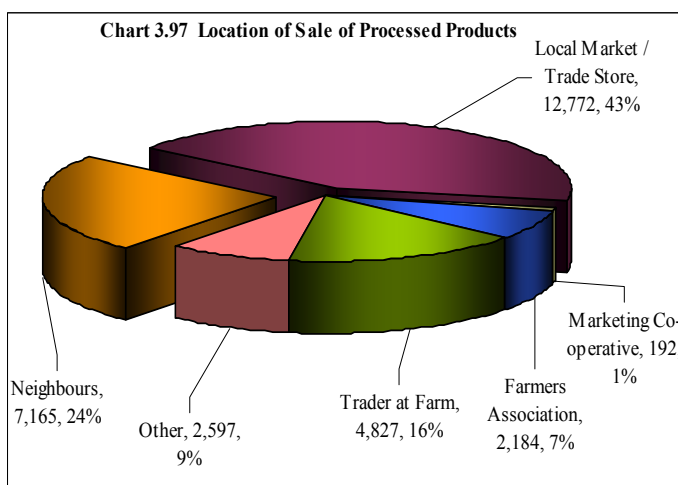


Out of 29,737 households that sold processed products, 16,008 households were from Kigoma rural district (53.8% of the total number of households selling processed products in the region), followed by Kasulu with 8,442 households (28.4%), Kibondo with 4,103 households (13.8%) and Kigoma Urban with 1,184 households (3.9%). (Chart 3.96).



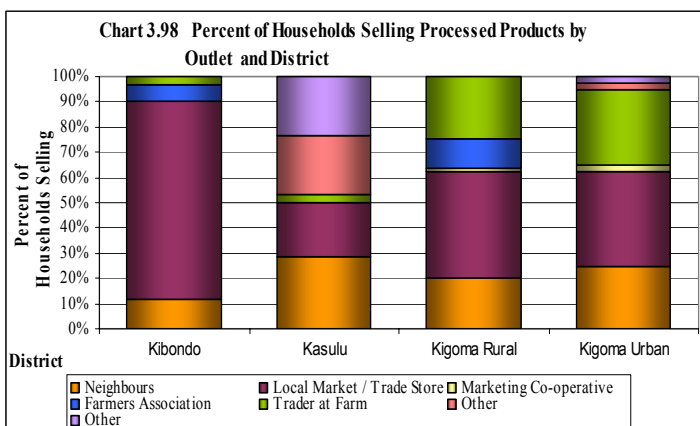
3.7.2.4 Outlets for Sale of Processed Products

Most households that sold processed products sold them to local market and trade stores (12,772 households, 43% of households that sold crops). This was followed by selling to neighbours (7,165 households, 24%), trader at farm (4,827 households, 16%), others (2,597 households, 9%), farmers association (2,184 households, 7%) and marketing co-operative (192 households, 1%) (Chart 3.97).



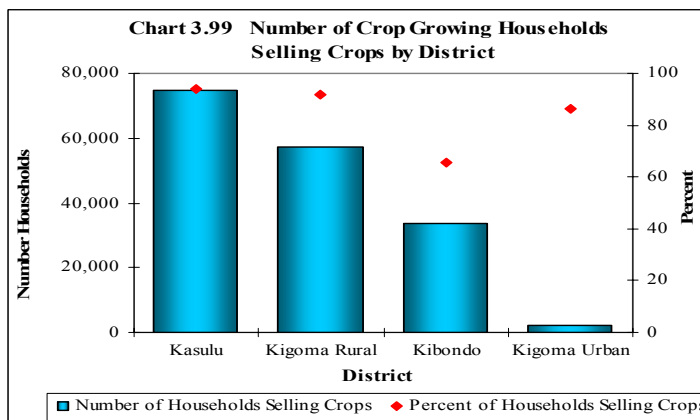
There were large differences between districts in the proportion of households selling processed products to neighbours with Kibondo district having the largest percent of households in the region selling to local market/ trade store (78.8%), whereas Kasulu district had a higher percent of households selling to neighbours than other outlets.

Compared to other districts, Kibondo district had the highest percent of households selling processed products to local market/trade store, In Kigoma rural district the sale of processed produce to traders at farm was most prominent compared to other districts, and district that had the highest proportion of households selling processed products to farmers association was Kigoma rural whereas Kasulu and Kigoma urban had no households selling to farmers association. (Chart 3.98).



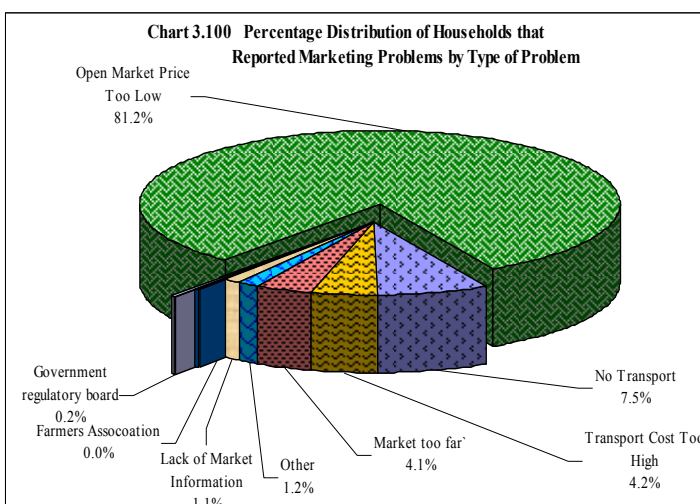
3.7.3 Crop Marketing

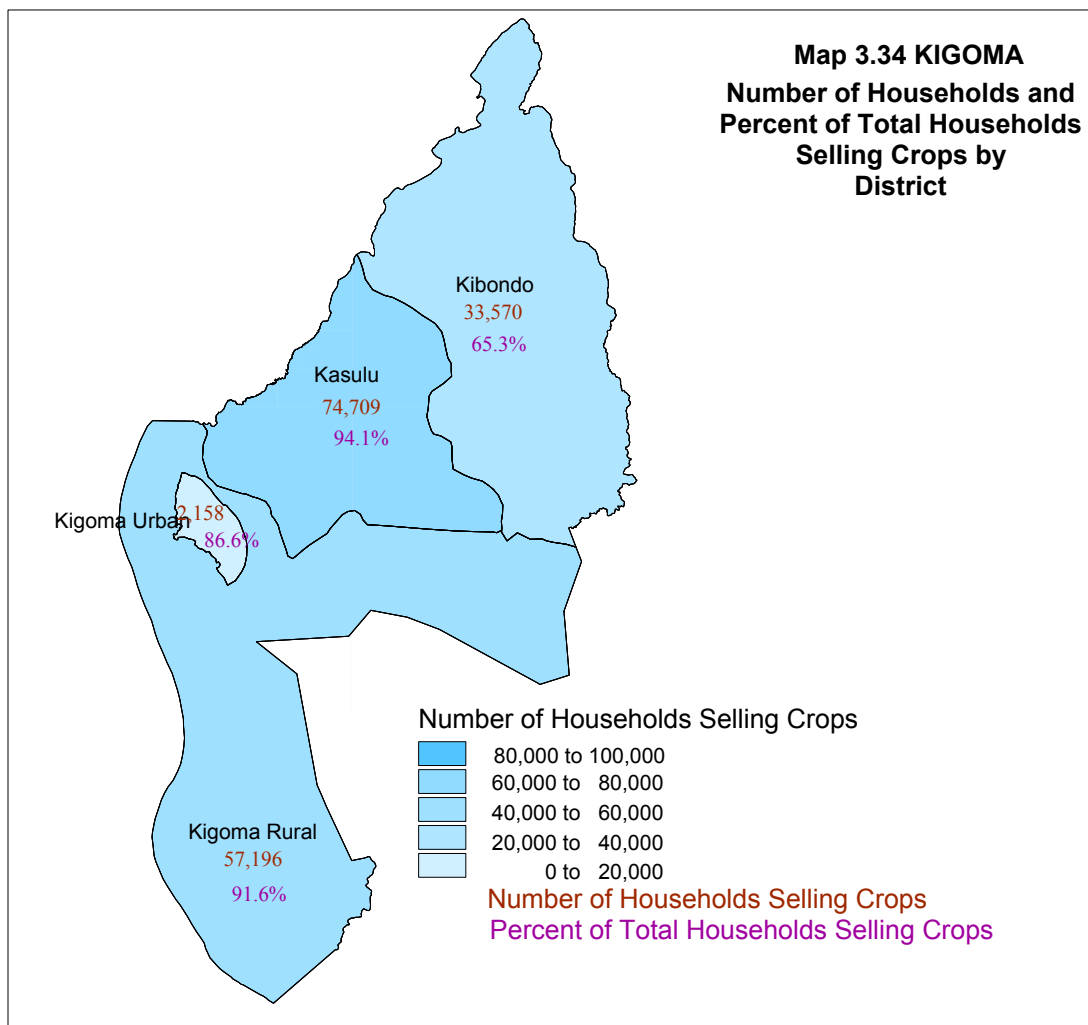
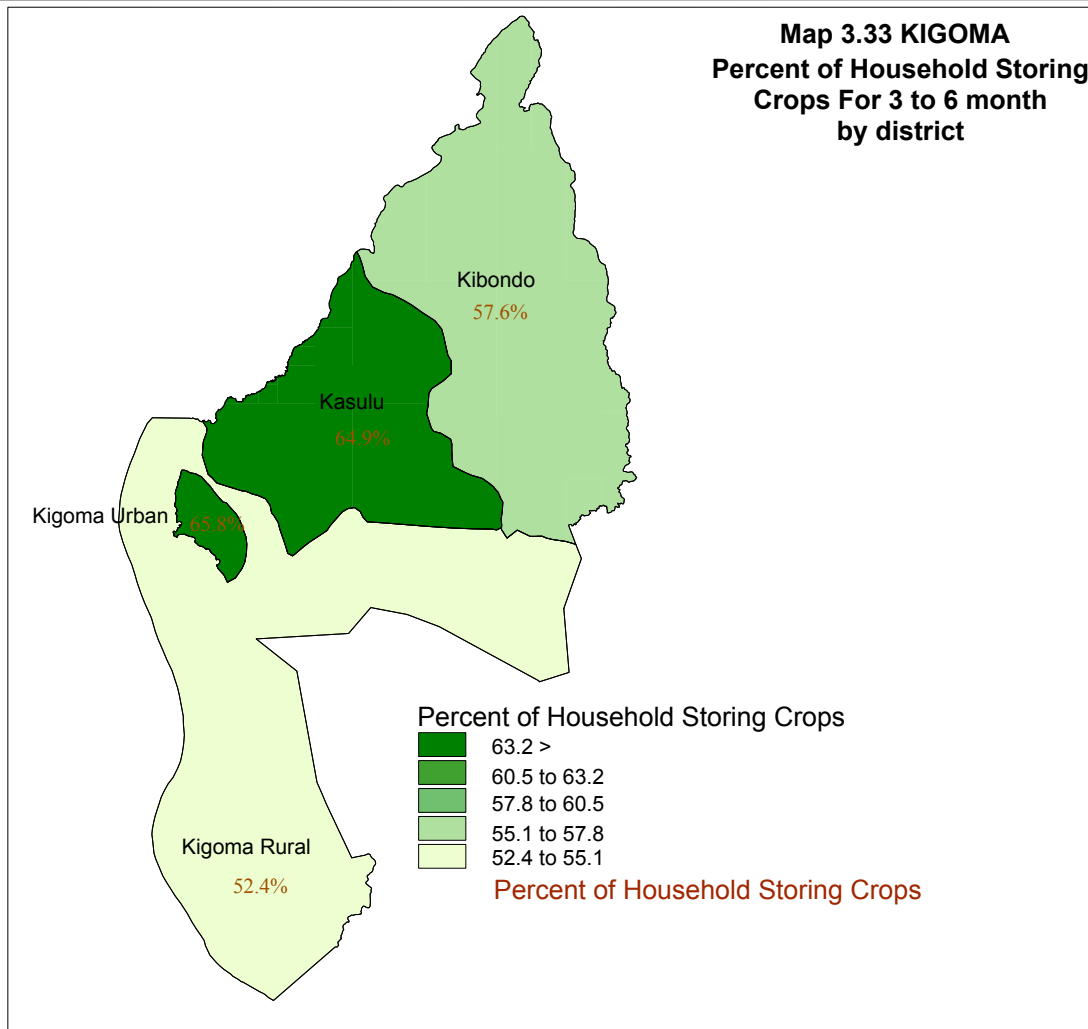
The number of households that reported selling crops was 167,633 which represented 86.1% of the total number of crop growing households. The percent of crop growing households selling crops was highest in Kasulu (94%) followed by Kigoma rural (92%), Kigoma urban (87%), and Kibondo (65%) (Chart 3.99 and Map 3.36).



3.7.3.1 Main Marketing Problems

Low price for agricultural produce was the main marketing problem reported by households (81.2%) of crop growing households. Apart from low market prices, other problems were lack to transport (7.5%), high transport (4.2%), Market too far (4.1%), other (1.2%). and lack of market information (1.1%) Other marketing problems are minor and represented less than 1 percent of the total reported problem (Chart 3.100).





3.7.3.2 Reason for Not Selling Crops

The main reason for not selling crops was reported as “insufficient production to sell”, representing 88.1% of the smallholders, price too low (7.0%), market too far (1.8%). The remaining reasons for not selling are in such low numbers that it is not appropriate to rank their importance (Table 3.11).

3.8 Access to Crop Production Services

3.8.1 Access to Agricultural Credit

The census result shows that in Kigoma region very few agricultural households 3,403, (1.7%) accessed credit out of which 3,211 (94%) were male-headed households and 192 (6%) were female headed households. In Kibondo, Kigoma rural and Kigoma urban districts, only male-headed households accessed credit. (Table 3.12)

3.8.1.1 Source of Agricultural Credit

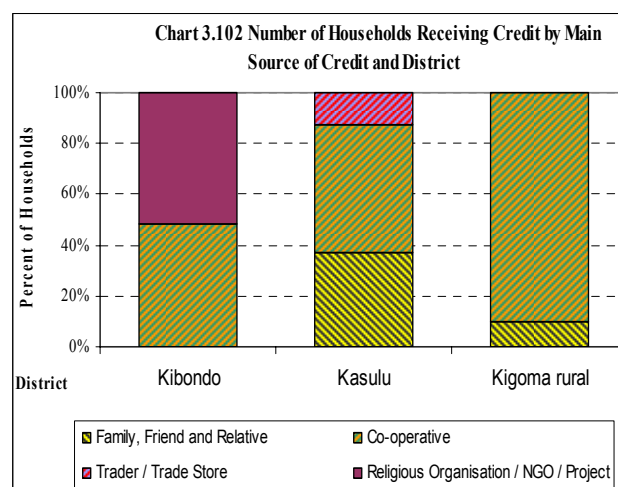
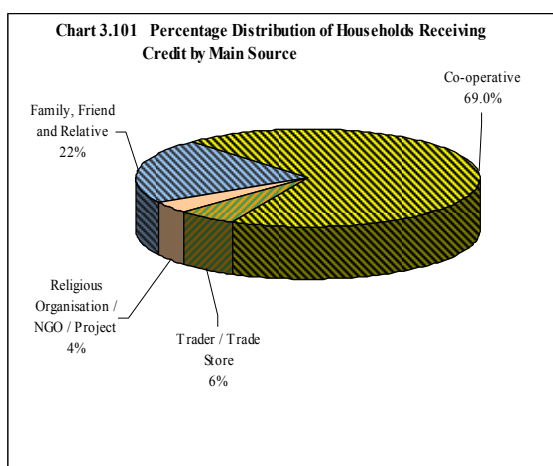
The major agricultural credit provider in Kigoma region was co operative which provided credit to 2,347 agricultural households, (69% of the total number of households that accessed credit), followed by family, friends and relatives (22%), trader/trade store (6%) and religious organisation (4%) (Chart 3.101). Religious organization/NGO/Project were the sole source of credit only in Kibondo district, co operatives provided credit in Kibondo, Kasulu and Kigoma rural districts, while trade/trade stores provided credit only in Kasulu district (Chart 3.102).

Table 3.11 Reasons for Not Selling Crop Produce

Main Reason	Household Number	%
Production Insufficient to Sell	45158	88.1
Other	903	1.8
Price Too Low	3593	7.0
Trade Union Problems	352	0.7
Co-operative Problems	155	0.3
Market Too Far	937	1.8
Government Regulatory Board Problems	132	0.3
Total	15230	100.0

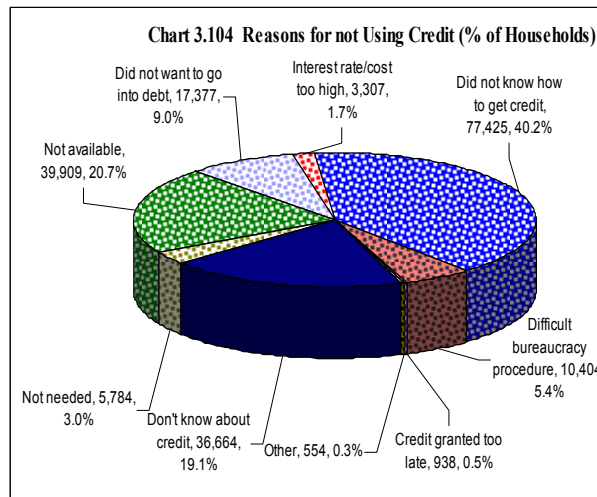
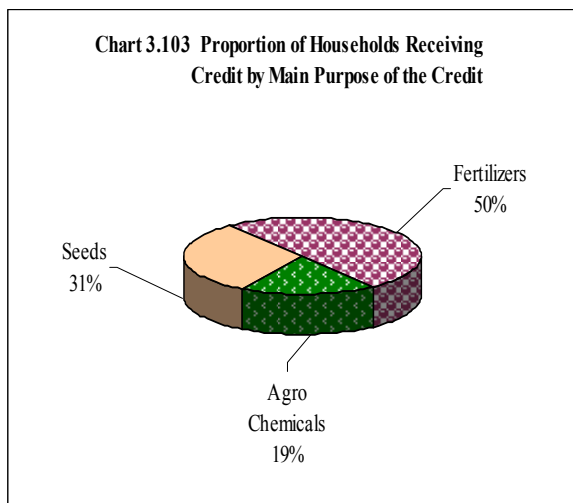
Table 3.12 Number of Agricultural Households that Received Credit by Sex of Household Head and District

District	Male		Female		Total
	Number	%	Number	%	
Kibondo	251	100	0	0	251
Kasulu	1,363	88	192	12	1,555
Kigoma rural	1,597	100	0	0	1,597
Kigoma urban	0	0	0	0	0
Total	3,211	94	192	6	3,403



3.8.1.2 Use of Agricultural Credit

A large proportion of the agricultural credit provided to agricultural households in the region were used on fertilizers (62%), followed by agro-Chemicals (21%) and seeds (17%) (Chart 3.103).

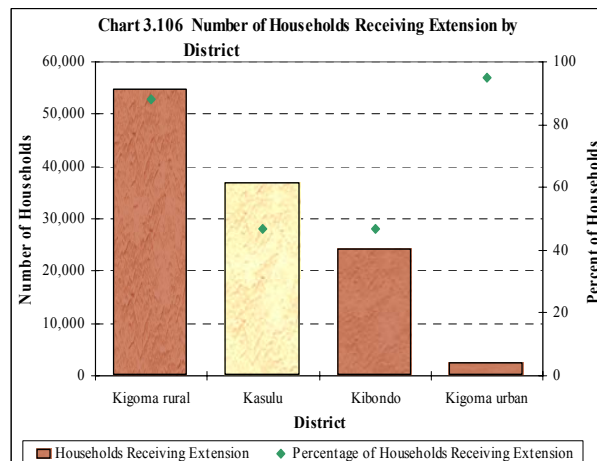
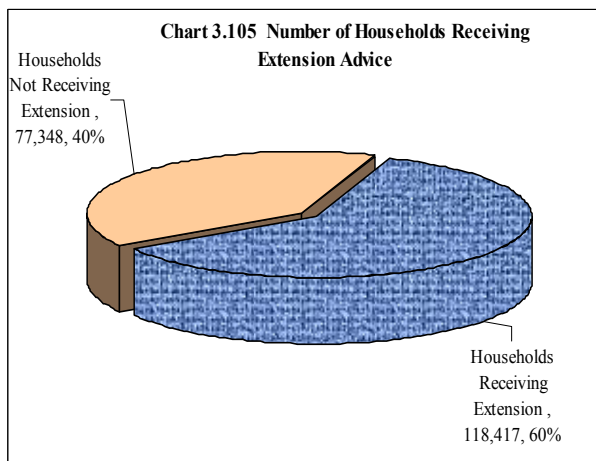


3.8.1.3 Reasons for Not Using Agricultural Credit

The main reason for not using agricultural credit as a source of finance was did not know how to get credit accounting to 40.2% percent of the agricultural households. This was followed by households reporting credit not available 20.7%, did not know about credit 19.1%, did not want to go into debt 9.0%, difficult bureaucracy procedure 5.4 %, the rest of the reasons accounted for (5.5%), (Chart 104).

3.8.2 Crop Extension

The number of agricultural households that received crop extension was estimated at 118,417 or 61% of total crop growing households in the region.(Chart 3.105) Some districts had more access to extension services than others. Kigoma urban had a relatively high proportion of households (95%) that received crop extension messages in the district followed by Kigoma rural (88%), Kasulu and Kibondo both had (47% of households that received crop extension services) (Chart 3.106 and Map 3.33).



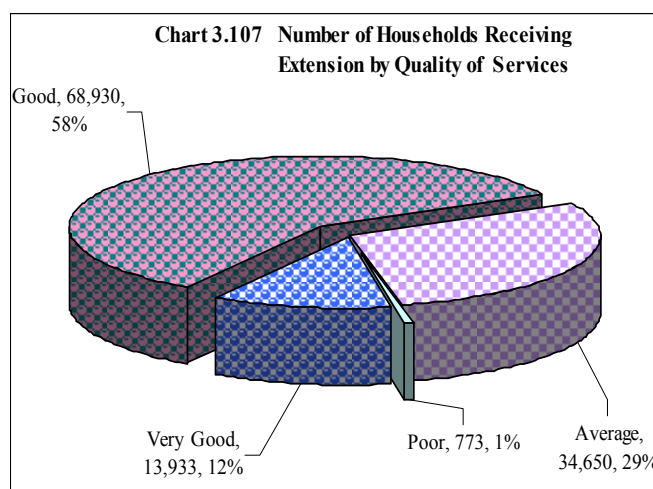
3.8.2.1 Sources of Crop Extension Messages

Of the households receiving extension advice the government provided the greatest proportion 112,202 households (95.3%), NGOs provided extension advice to 3,504 households (3%), The remaining sources provided less than 1 percent each.

3.8.2.2 Quality of Extension

An assessment of quality of extension indicates that 58% of the households receiving extension ranked the service as being good followed by average (29%), very good (12%) and poor (1%). (Chart 3.108).

However, care should be exercised when making decisions on quality of extension and also other variables in the extension report as all the enumerators were extension agents and some degree of bias is expected.



3.9 Access to Inputs

3.9.1 Use of Inputs

Access to inputs in this section refers to all crop growing households in Tanzania regardless of whether the household grew annual or permanent crops. In previous sections reference was to annual crops only. Because of this, some of the figures presented in this section may be slightly different from those in previous section on Inputs Use (Section 3.5). Data on source of inputs are only found in this section and apply to both annual and permanent crop

A small number of households use inputs and this particularly true of inputs that are not produced on farm, such as pesticides/fungicide, inorganic fertilizers and herbicides. In Kigoma region farm yard manure was used 21.2 percent of the crop growing households, compost (8.2%), inorganic fertilizers (7.5%), improved seeds (7.2%), pesticides/fungicides (6.9%), and herbicides (0.1%).

Type of Input	Households With Access to Input		Households Without Access to Input	
	Number	%	Number	%
Farm yard manure	41,045	21.1	153,920	78.9
Improved seeds	13,963	7.2	181,002	92.8
Pesticides/Fungicide	13,513	6.9	181,452	93.1
Inorganic fertiliser	14,614	7.5	180,351	92.5
Compost	16,039	8.2	178,926	91.8
Herbicide	149	0.1	194,816	99.9

3.9.2 Inorganic Fertilizers

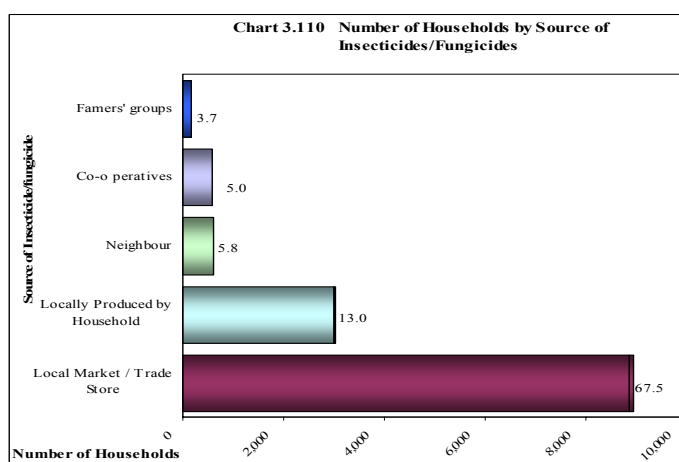
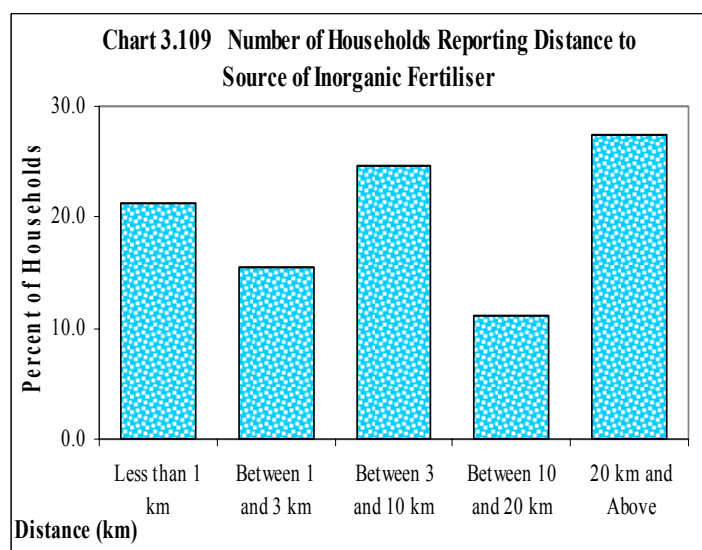
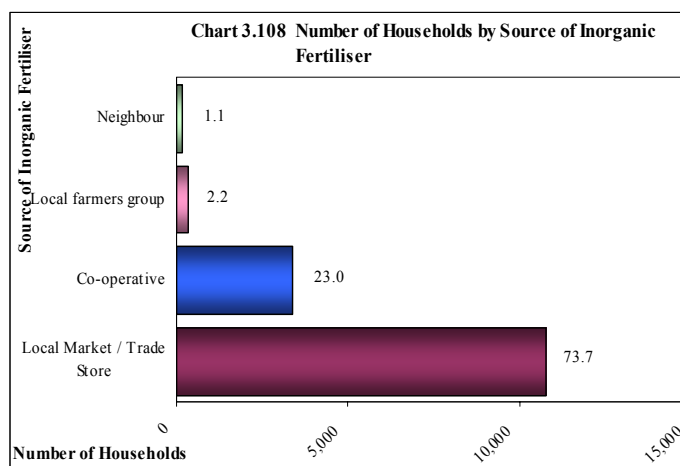
Most smallholders using inorganic fertilizers purchased them from the local market/trade store (73.7% of the number of households using fertilizers).

The other source were cooperatives (23.0%), local farmers group (2.2%) and neighbours (1.1%). (Chart 3.108).

For most households the distance from the household to source of inorganic fertilizers was more than 20 km (27.5% of households used the fertilizers), followed by 3 and 10 km (24.7%) , less than 1 km (21.2%), between 1 and 3 km (15.4%) and between 10 and 20 km (11.2%) (Chart 3.109).

Due to the very small number of households using inorganic fertilizers coupled with the small number of households responding to “not available” (7.2%), as the reason for not using them it may be assumed that access to inorganic fertilizer was not the main reason for not using the fertilizers. Other reasons such as cost were more important with 70 percent of households responding to cost factors as the main reason for not using the fertilizers. In other words, if the cost was affordable the demand would be higher and inorganic fertilizer would be made more available.

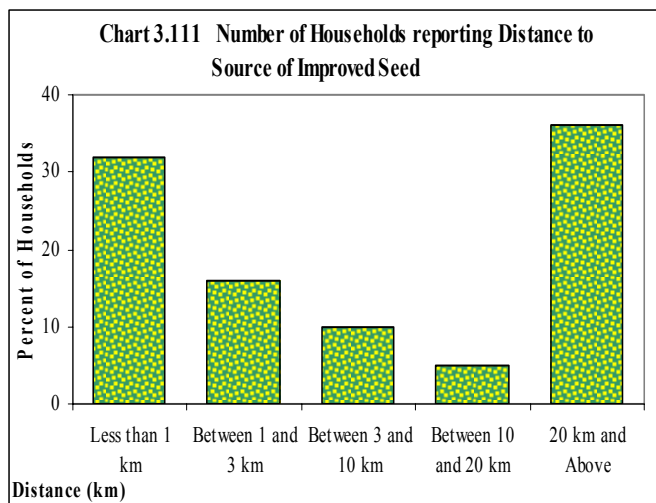
There were more smallholders using inorganic fertilizers in Kasulu than in other districts in Kigoma region (43.9% of the households used inorganic fertilizers), followed by Kibondo (25.7%) and Kigoma urban (2.3%).



3.9.3 Improved Seeds

The percentage of crop growing households that used improved seeds was 7.2. Most of the improved seeds were obtained from the local market/trade stores (67.5%), followed by co-operative (22.7%).

Access to improved seeds was better than access to chemical fertilizers with 32 percent of households obtaining the input within 1 km of the household (Chart 3.111). This is in line with the higher use of improved seed compared to chemical inputs, which further supports the concept that it is not the availability that is the the main issue in the use of inputs but rather other factor such as cost. The districts that used improved seeds most was Kigoma urban (23.6 percent of the total number of households using improved seeds in the district), followed by Kasulu (8.1%), Kigoma rural (7.1%) and Kibondo (3.9%).(Map3.34)



3.9.4 Insecticides and Fungicides

Most smallholders' households using insecticides and fungicides purchased them from local markets/trade stores (65.69%) of the total number of fungicides users) followed by cooperatives (22.5%). Other sources of insecticides/fungicides were of minor importance (Chart 3.112 and Chart 3.36).

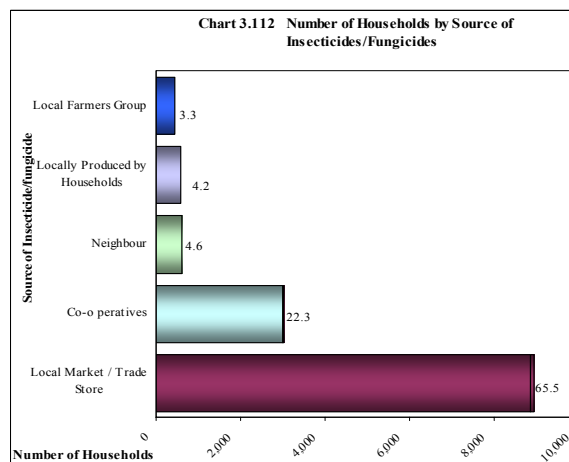
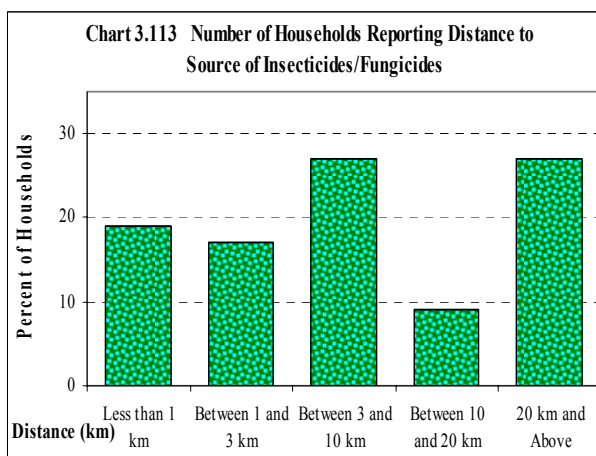


Chart 3.113 shows that for 19%, of the households using insecticides/ fungicides the source was within a distance of 10 kms. The district that used insecticide/fungicides most was Kigoma rural (46.4 percent of the total number of households that use fungicides in the region), followed by Kibondo (29.2%), Kasulu (23.2%) and Kigoma urban (1.2%)

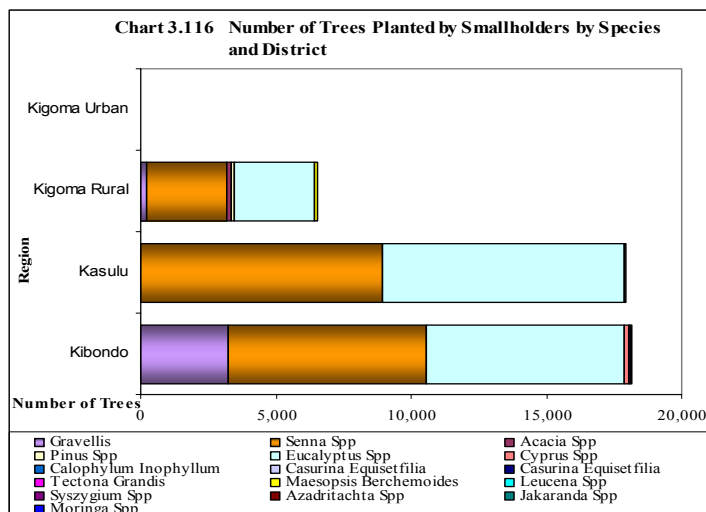
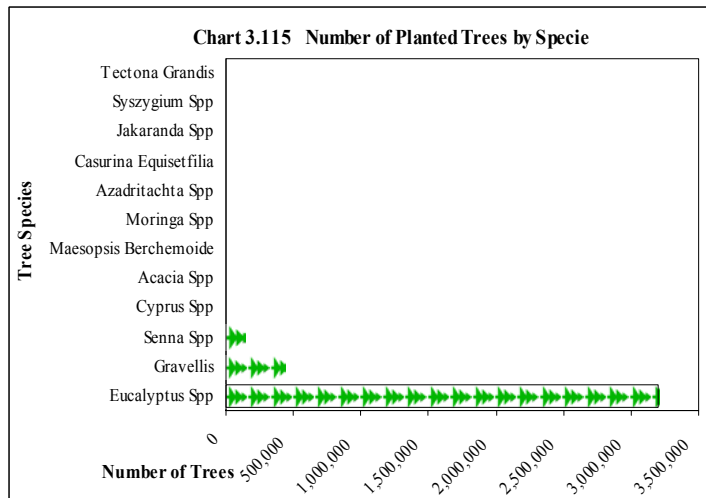
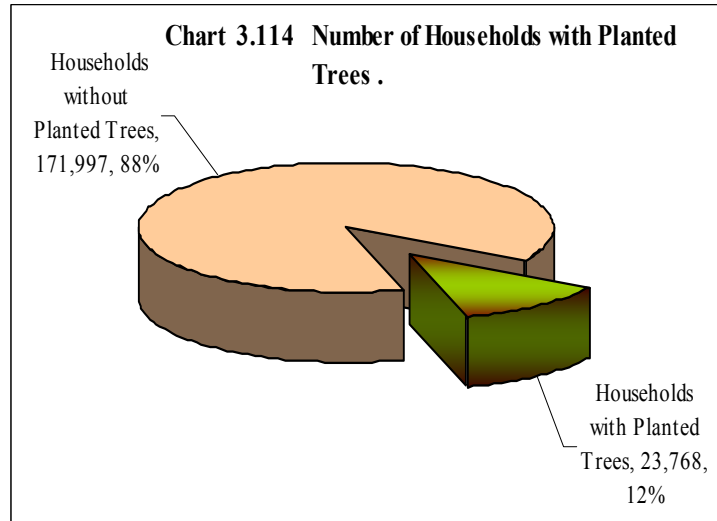
3.10 Tree Planting.

The number of households involved in tree farming was 12,796 representing 12 percent of the total number of agriculture households (Chart 3.114).

The number of trees planted by smallholders on their allotted land was 3,903,785 trees. The average number of trees planted per households planting trees was 20 trees

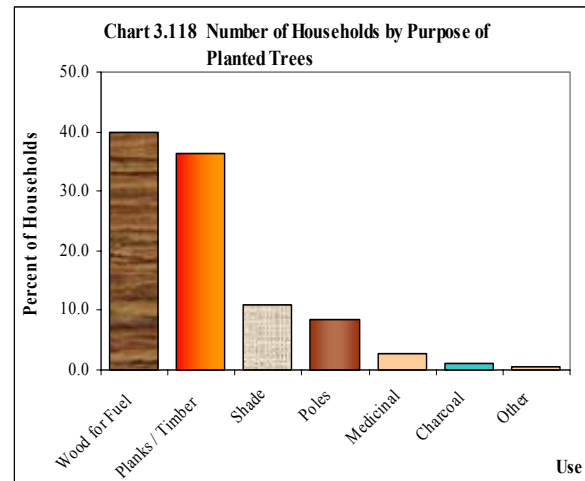
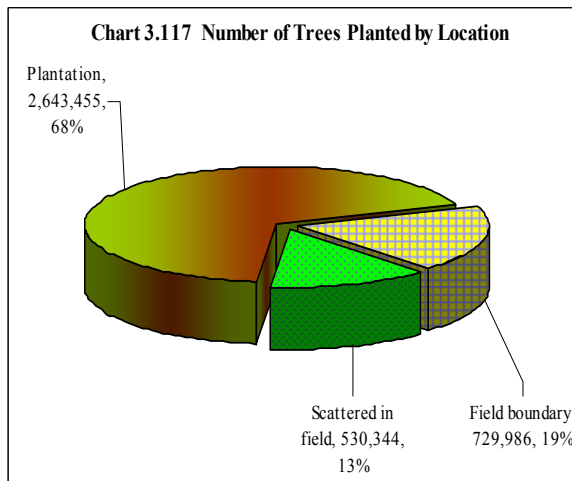
The main species planted by smallholders is Eucalyptus Spp (19,233 trees, 78.4%), followed by Gravellis (3,449 trees, 14.1%), Senna Spp (10161 trees, 4.1%). 1.94%). The remaining trees species were planted in comparatively small numbers (Chart 3.115 and Map 3.37).

Kibondo had the largest number of smallholders with planted trees than any other district (44.7%) and the trees were dominated by Eucalyptus species and Gravellis. This was followed by Kasulu (37.0%) with Eucalyptus species and to a lesser extent Senna spp, Kigoma rural (17.4% dominated by Eucalyptus spp) then Kigoma urban (0.9% mainly Senna Spp). Chart (3.116)



Smallholders mostly plant trees in the Plantation. The proportion of households that plant in plantation was 57 percent followed by scattered around the fields (22%) and then field boundary (21%) (Chart 3.117).

The main purpose of planting trees was to obtain fuel wood (40.0%), this was followed by planks/timber (35.8%), shade (10.9%) poles (8.5%), medicinal (2.7 %), charcoal (1.2%) and other purpose (0.6 %), (Chart 3.118 and Chart 3.37)



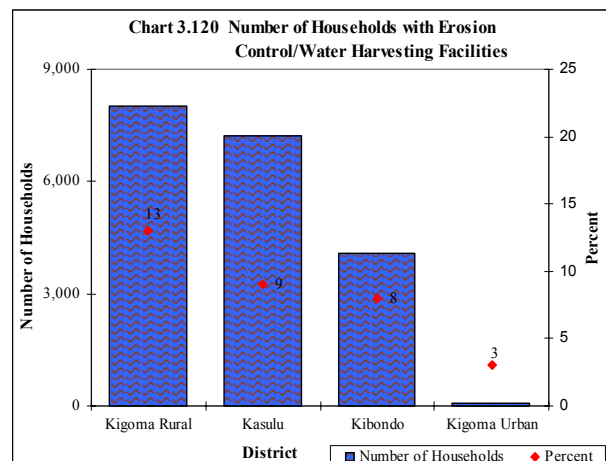
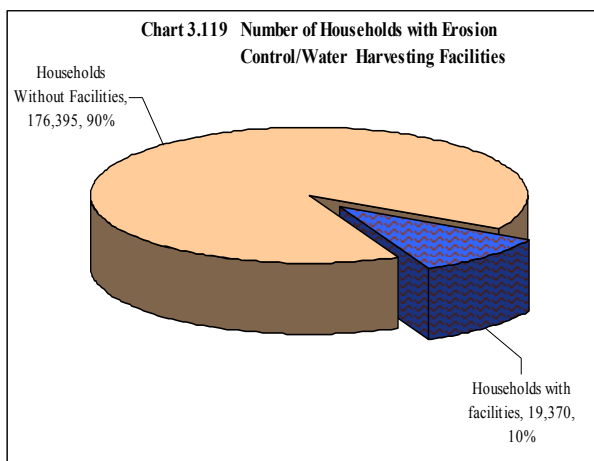
3.11 Irrigation and Erosion Control Facilities

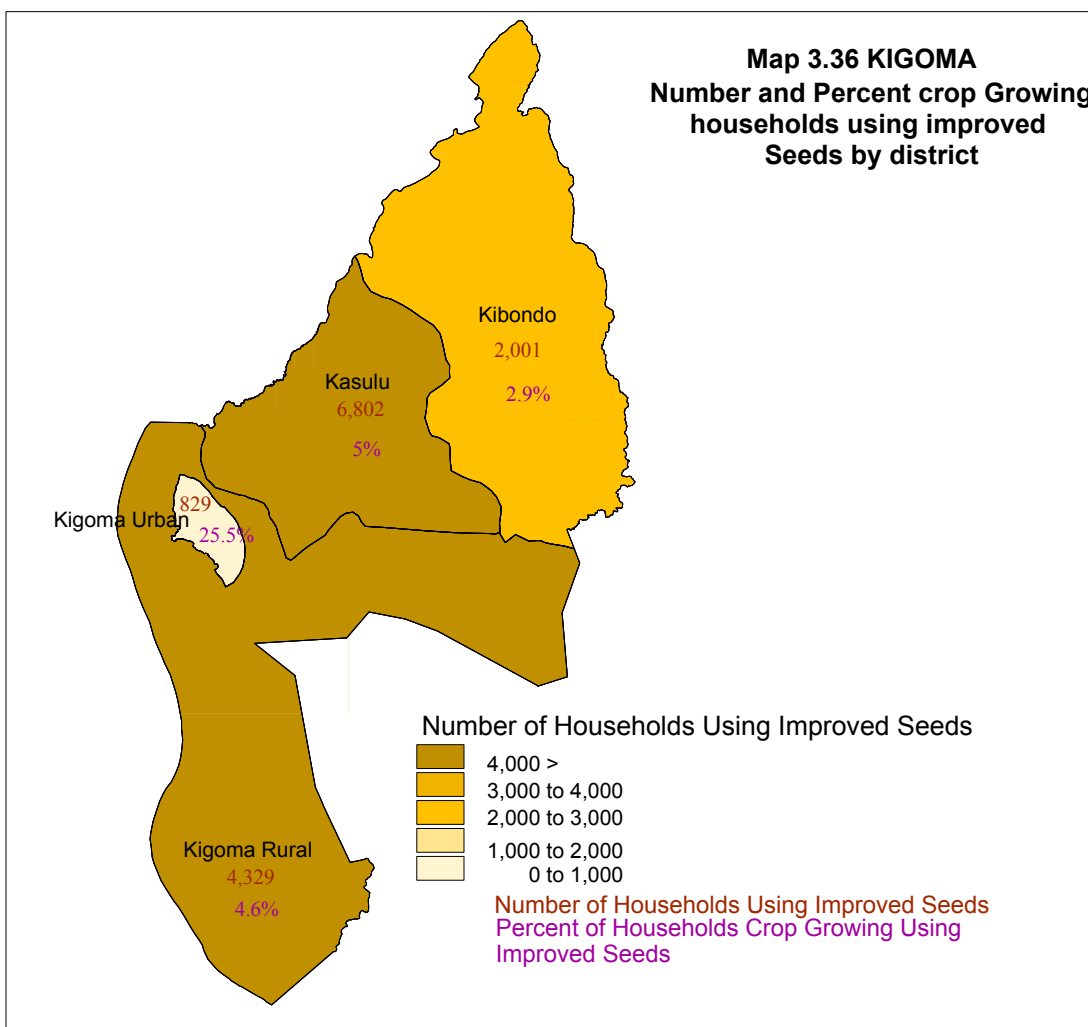
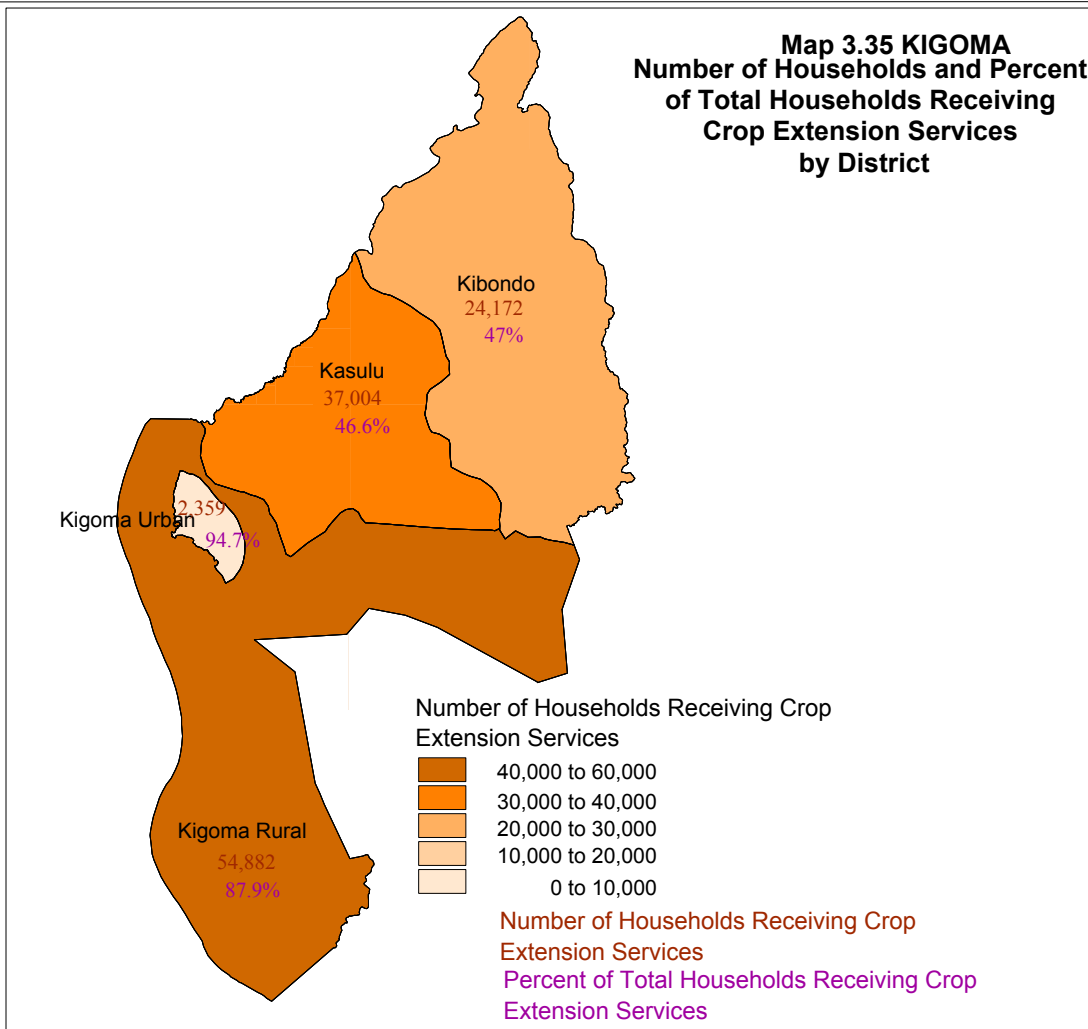
Erosion control and water harvesting facilities are grouped together as they normally have dual purposes of reducing erosion and increasing the amount of water available for crop production.

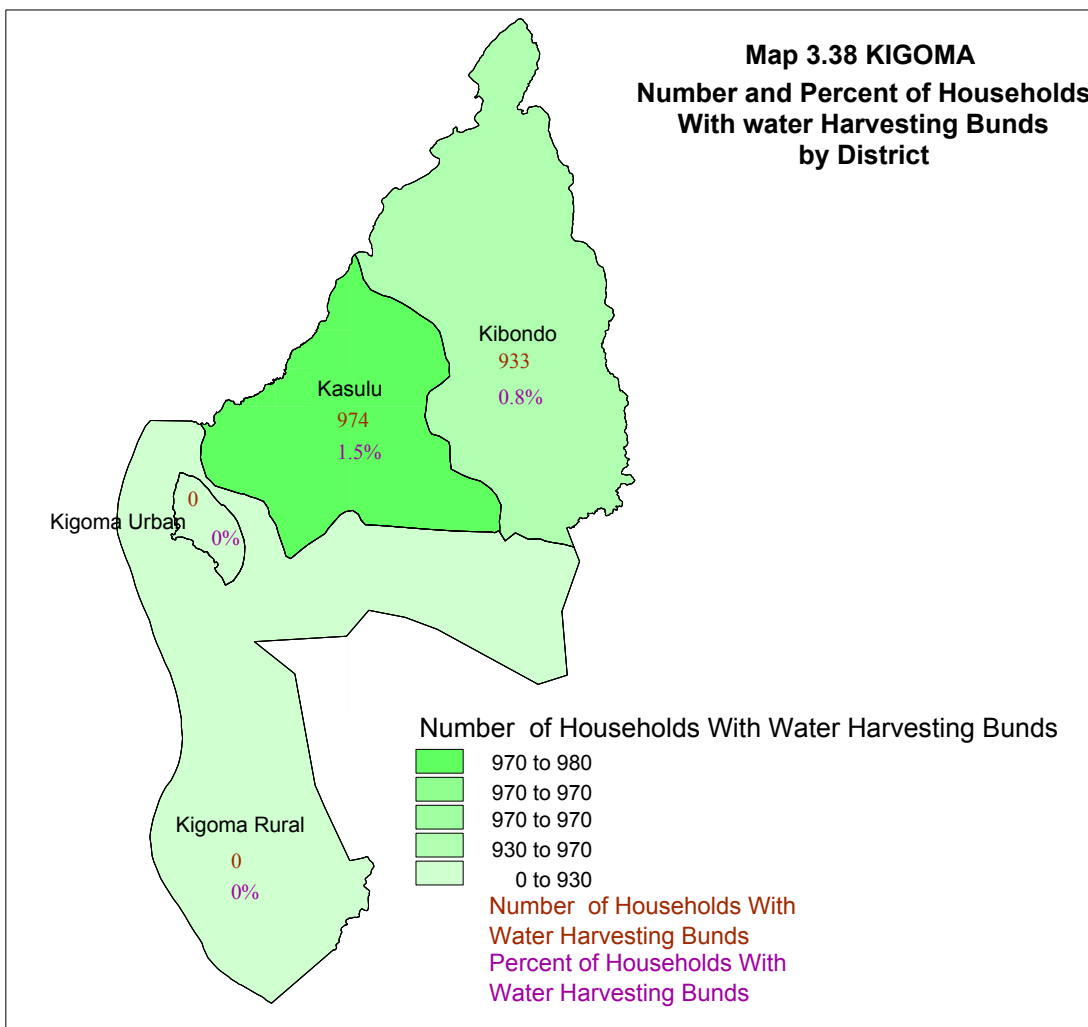
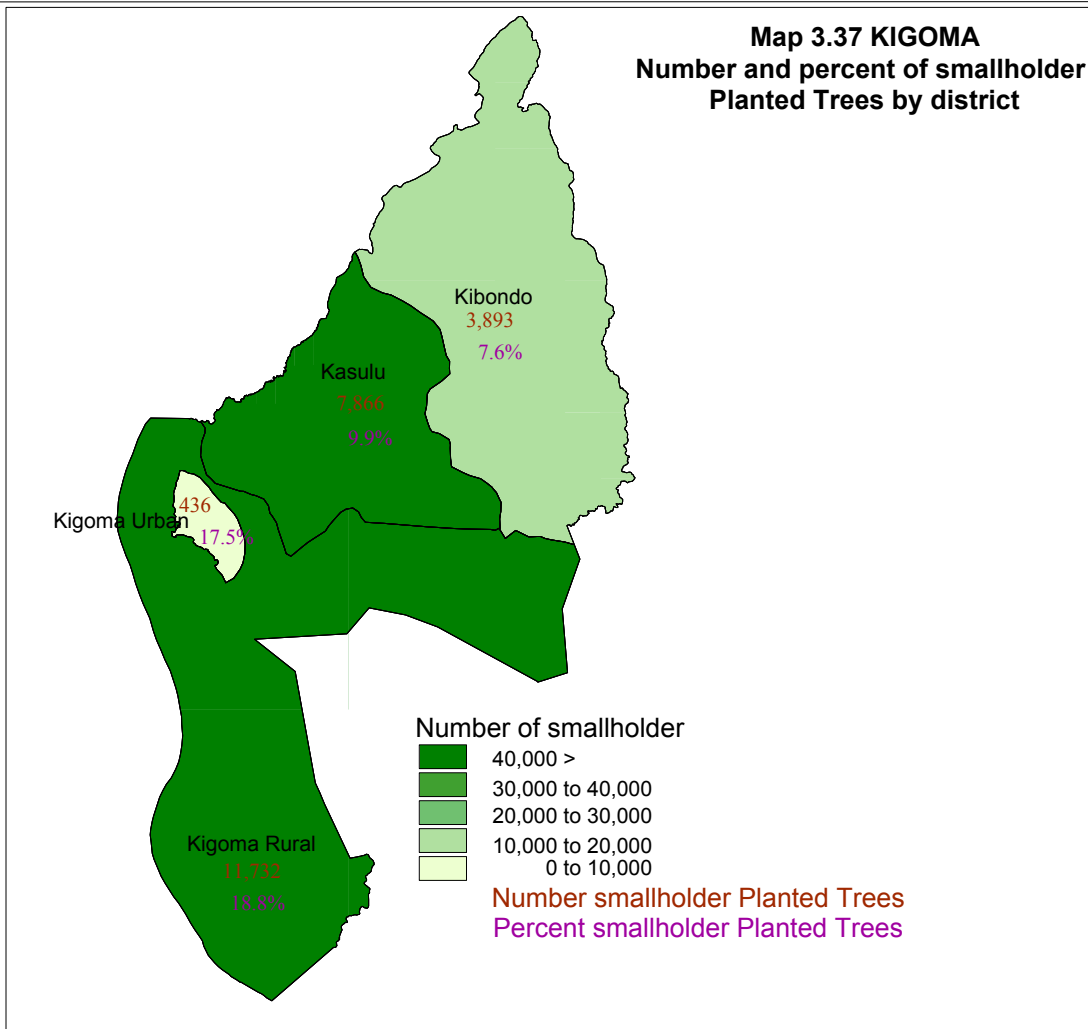
The number of agricultural households that reported the presence of soil erosion and water harvesting facilities on their farms was 19,370. This number represented 10% of total number of agricultural households in the region.

(Chart 3.119)

The proportion of farmers with soil erosion control and water harvesting facilities was highest in Kigoma rural (13%) followed by), Kasulu (9%), Kibondo (8%), and Kigoma urban (3%) Chart 3.120). (Map 3.38)







The erosion control bunds for 89.4% of the total number of structures built; it was followed by terraces (3.2%), drainage ditches (3.0%), tree belts (2.4%), vertiver grass (0.5%), and dam (0.1%).

3.12 Livestock Results

3.12.1 Cattle Production

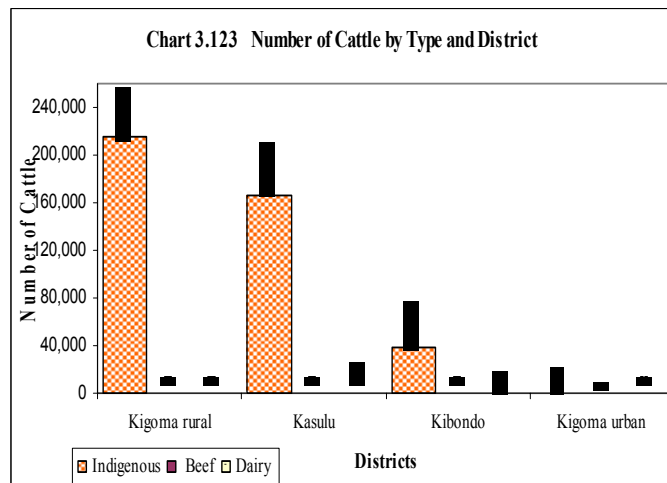
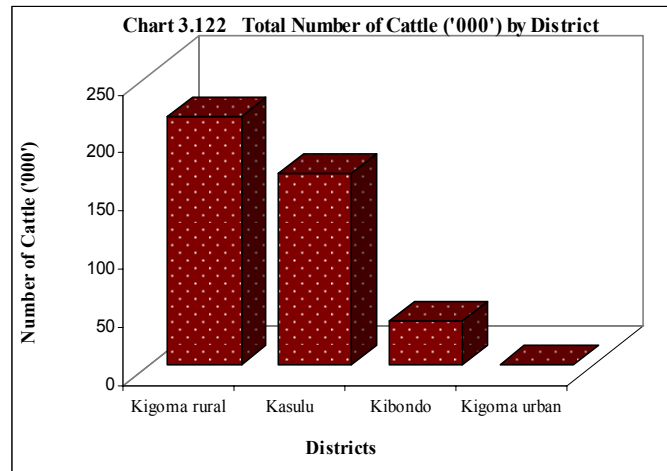
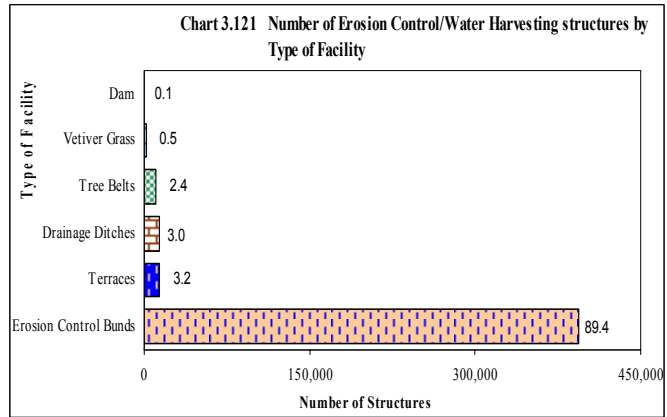
The total number of cattle in the region was 422,361. Cattle were the dominant livestock type in the region followed by goats, sheep and pigs. The region had 2.5 percent of the total cattle population on Tanzania, Mainland.

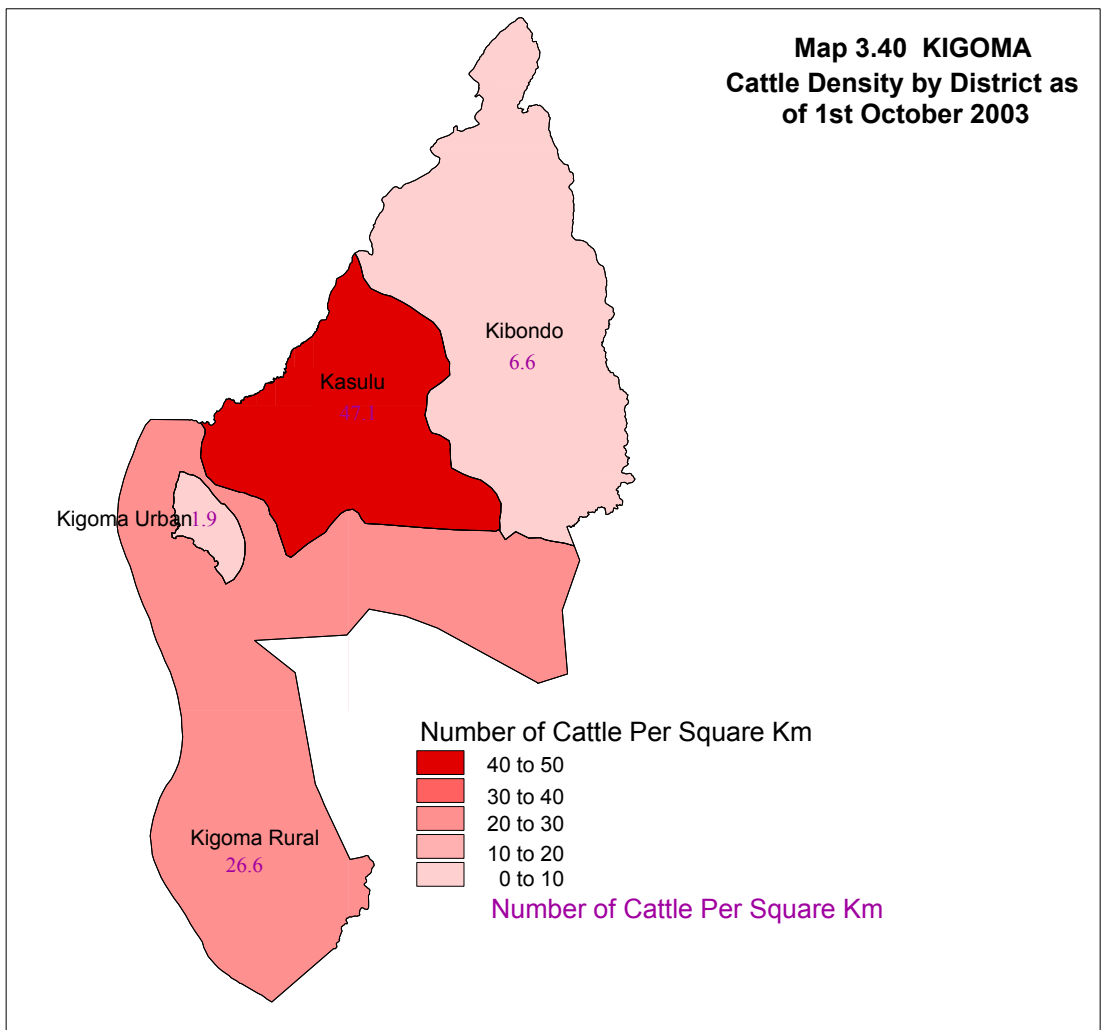
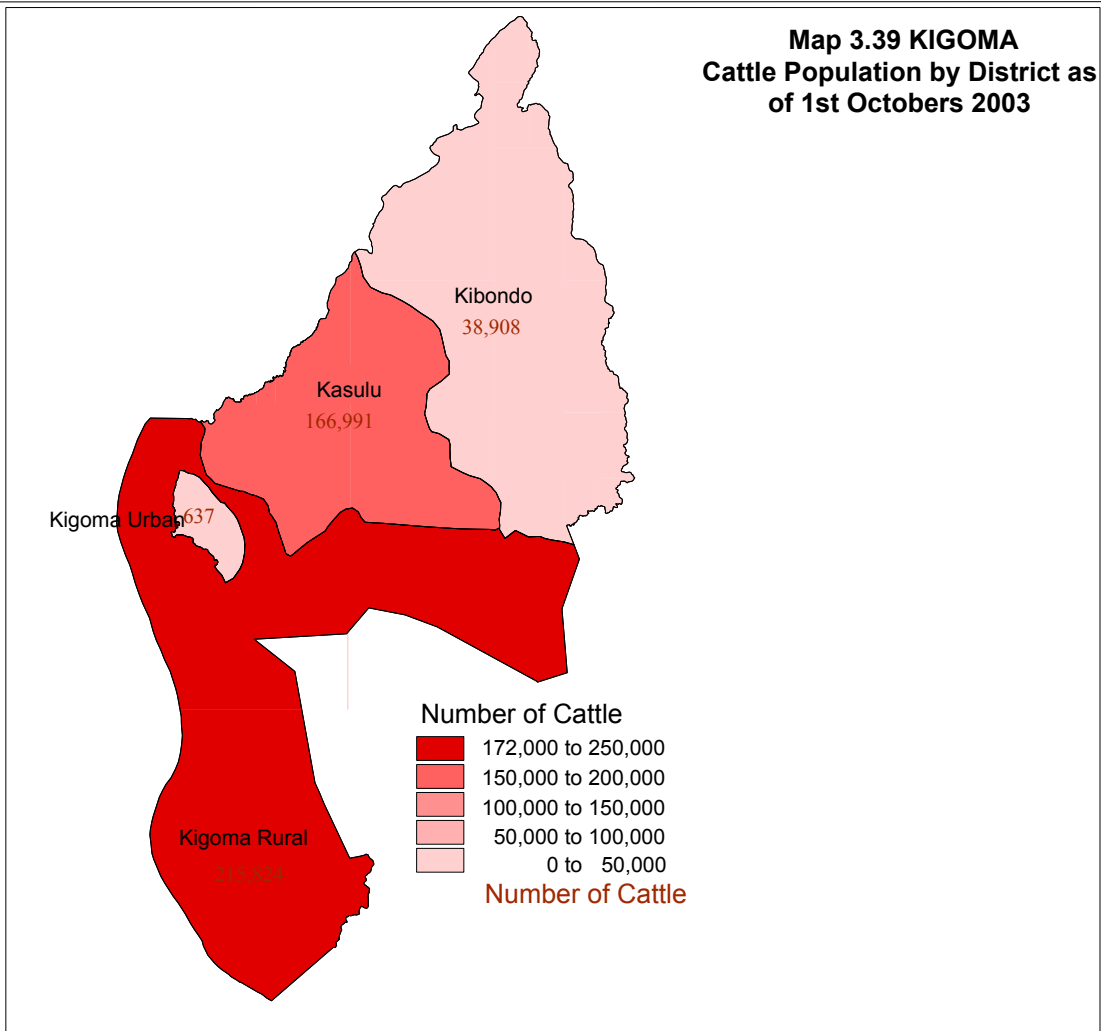
3.12.1.1 Cattle Population

The number of indigenous cattle in Kigoma region was 421,613 (99.8 % of the total number of cattle in the region) and daily cattle were 748 cattle (0.2%). There were no improved beef breeds reported

The census results show that 21,711 agricultural households (11.09% of the total agricultural households) kept 422,361 million cattle. This was equivalent to an average of 19 heads of cattle per cattle-keeping-household. The district with the largest number of cattle was Kigoma rural which had about 215,824 (51.1% of the total cattle in the region). This was followed by Kasulu (166,991 cattle, 39.5%) and Kibondo (38,908 cattle, 9.2%), and Kigoma urban (638 cattle, 0.2%) (Chart 3.122.and Map 3.39) .However, Kasulu district had the highest density (47 heads per Km²),

Although Kigoma rural district had the largest number of cattle in the region, most of them were indigenous. There were no improved beef cattle or dairy cattle in the district. Kibondo district had the largest number of diary cattle in the region. (Chart 3.123) and Map 3.40).





3.12.1.2 Cattle Herd Size

About eighty percent of the cattle-rearing households had herds of size 1-5 cattle with an average of 3 cattle per household. Heads of size 6-30 cattle were owned by 6 percent of the cattle rearing households. Only 2 per cent of the cattle rearing households had herd sizes of 31-100 cattle. About 42.6 percent of the total cattle rearing households had herds of size 1-30 cattle and owned 20 percent of the total cattle in the region with an average of 4 cattle per cattle rearing household. There were about 517 households with herd sizes of more than 100 cattle each which together owned 291,661 cattle, resulting in an average of 564 cattle per household.

3.12.1.3 Cattle Population Trend

Cattle population in Kigoma increased during the period of five years from 111,800 in 1995 to 421,613 cattle in 2003. This trend implies an overall annual positive growth rate of 3.3 percent (Chart 3.124)

However, the rate of increase was 1.1% over four year period from 1995 to 1999.

3.12.1.4 Dairy Cattle Breeds

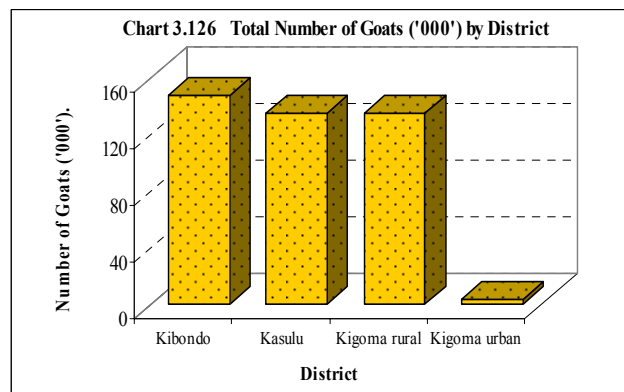
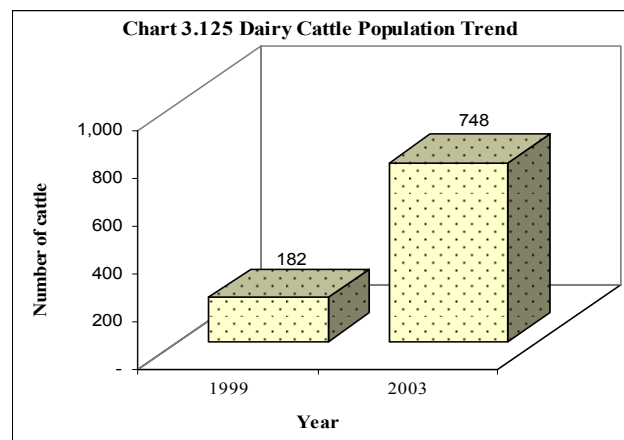
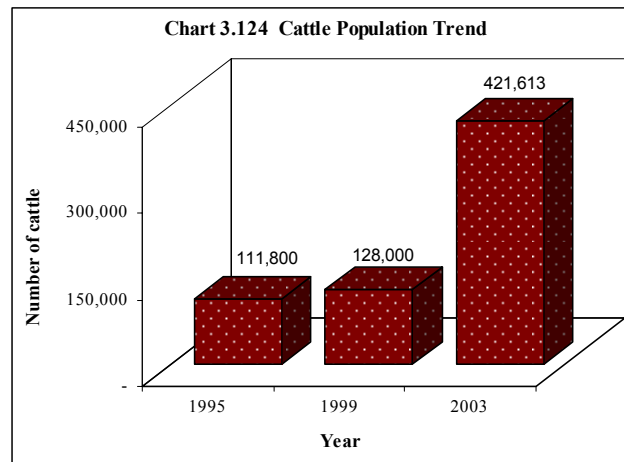
The total number of improved cattle in Kigoma region was 748 all of them being dairy cattle. The dairy cattle constituted 0.2 percent of the total cattle in the region. There were no improved beef cattle reported in region. The number of improved cattle increased from 182 in 1999 to 748 in 2003. The rate of growth was 4.1 over the period 1999 to 2003, there was no figure reported for 1995. Chart 3.125)

3.12.2. Goat Production

Goat rearing was the second most important livestock keeping activity in the region followed by sheep and pig rearing. In terms of total number of goats on the Mainland, Kigoma region ranked 13 out of the 21 regions with 3.6 percent of all total goats on the Mainland.

3.12.2.1 Goat Population

The number of goat-rearing-households in Kigoma region was 75,496, (38.6% of all agricultural households in the region) with a total of 425,604 goats giving an average of 6 head of goats per goat-rearing-household. (Map 3.41)



Kibondo had the largest number of goats (148,799 goats, 35% of all goats in the region) followed by Kasulu and Kigoma rural each had 32 percent (136,156 for Kasulu and 136,239 goats for Kigoma rural), Kigoma urban district had the least number of goats (4,410 goats, 1%) (Chart 3.125), However Kasulu district had the highest density (head 38 per km²) (Map 3.40)

3.12.2.2 Goat Herd Size

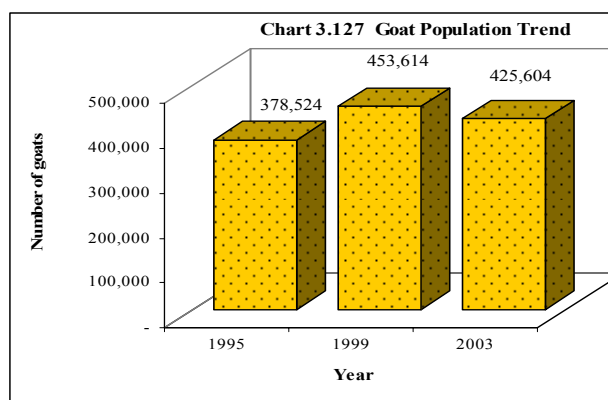
Fifty four percent of the goat-rearing households had herds of size 1-4 goats with an average of 3 goats per goat rearing households. About 95 percent of total goat-rearing households had herds of size 1-14 goats and owned 78 percent of the total goats in the region resulting in an average of 5 goats per goat-rearing household. The region had 451 households (0.6%) with herd of 40 or more goats each (22,433 goats in total), resulting in an average of 50 goats per household.

3.12.2.3 Goat Breeds

Goat husbandry in the region was dominated by the indigenous breeds that constituted about 99.6 percent of the total goats in Kigoma region. Improved goats for meat and dairy goats constituted in very small percentages of total goats.

3.12.2.4 Goat Population Trend

The overall annual growth rate of goat population from 1995 to 2003 was 1.2 percent. This positive trend implies eight years of population increased from 378,524 in 1995 to 425,604 in 2003. The number of goats increased from 378,524 in 1995 to 453,614 in 1999 at an estimated annual rate of 0.9 percent but decreased from 453,614 in 1999 to 425,604 in 2003 at a negative growth rate of 1.6 % (Chart 3.127).

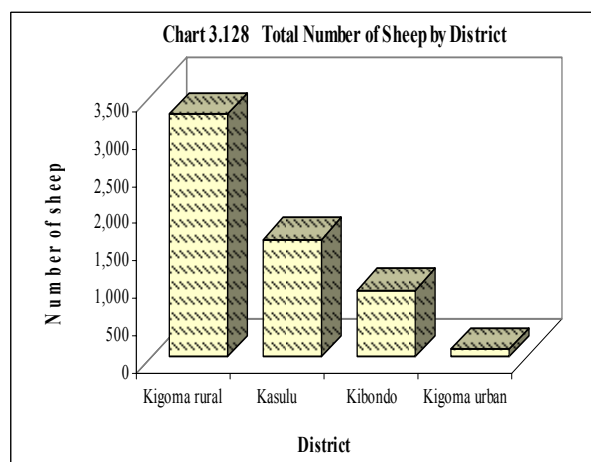


3.12.3 Sheep Production

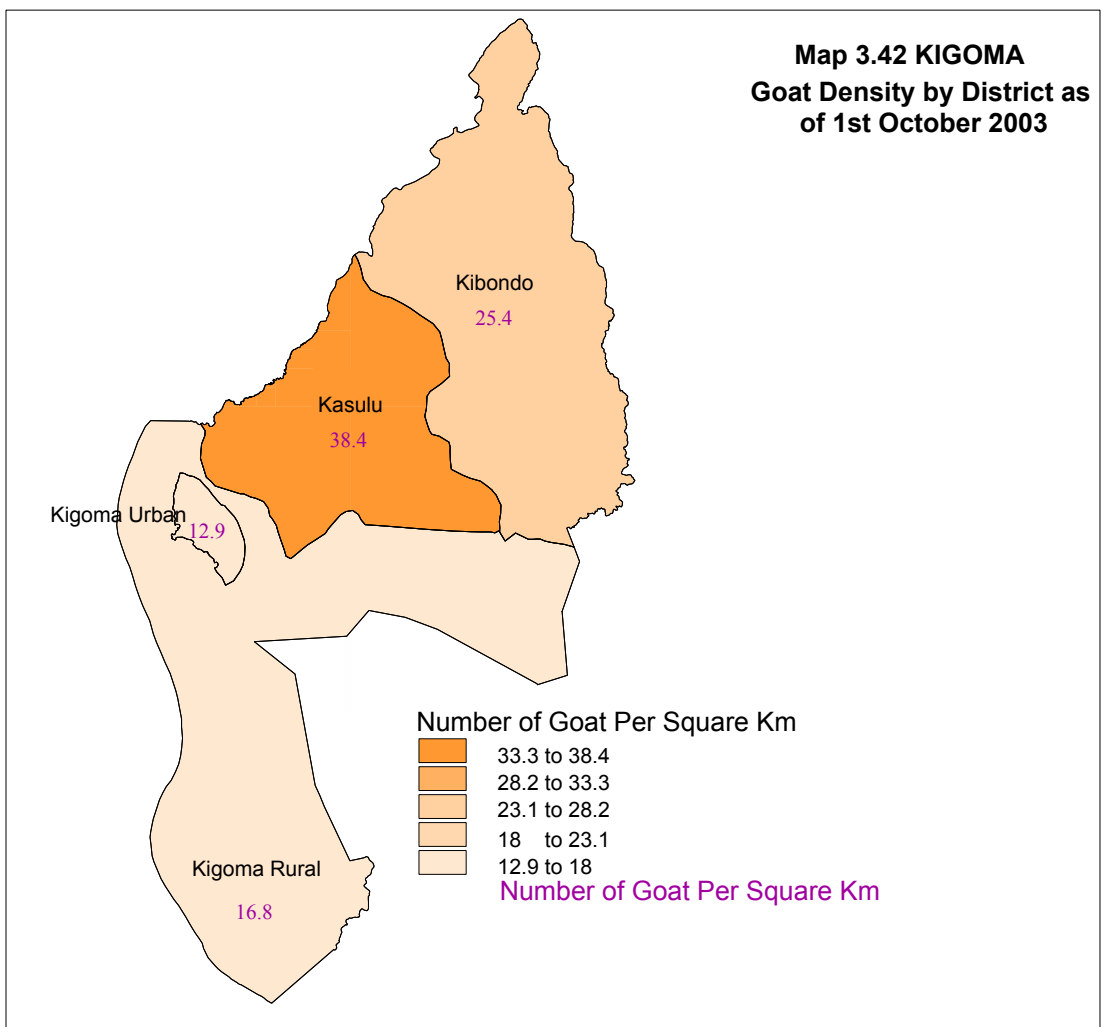
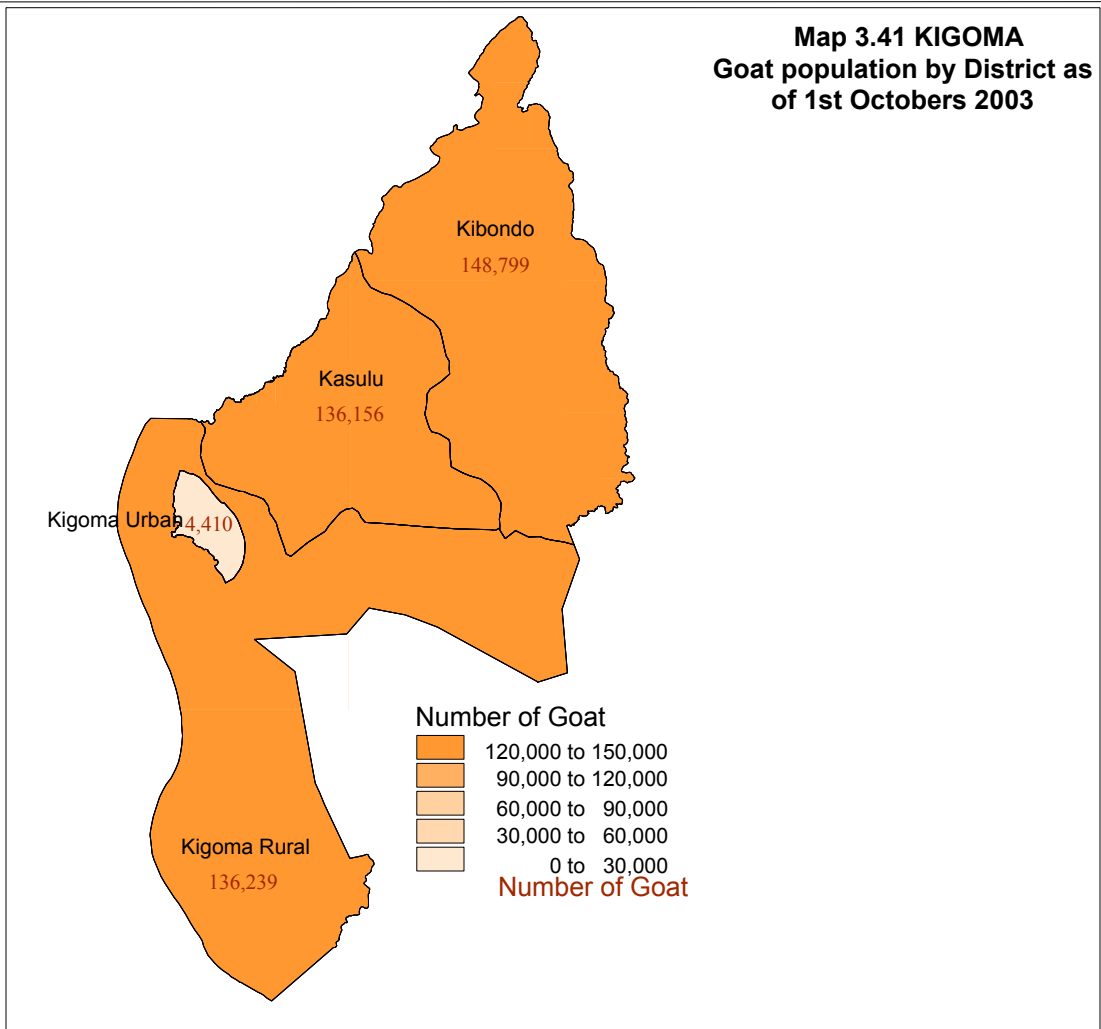
Sheep rearing was the third most important livestock keeping activity in Kigoma region after cattle and goats. The region ranked 14 out of 21 Mainland regions and had 1.3 percent of all sheep on Tanzania Mainland.

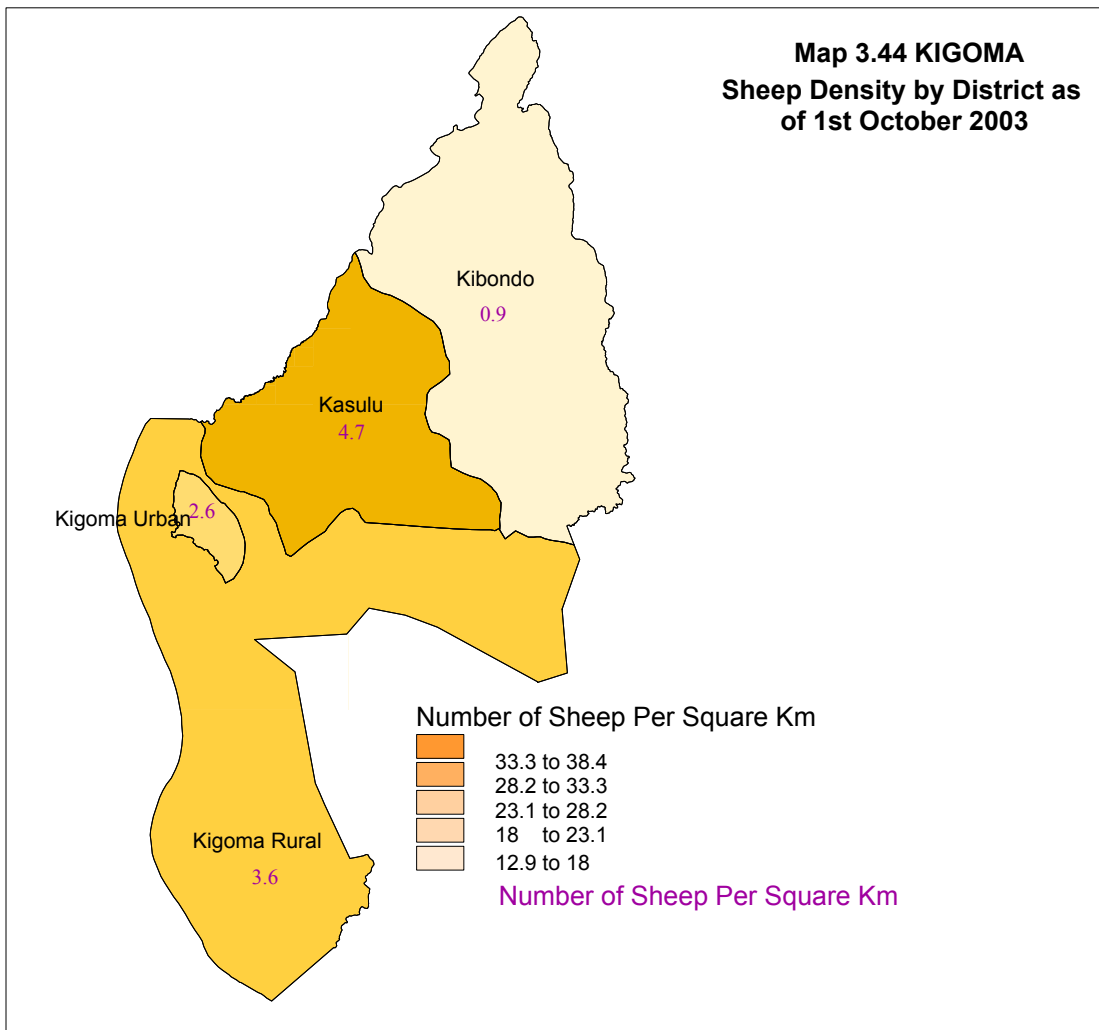
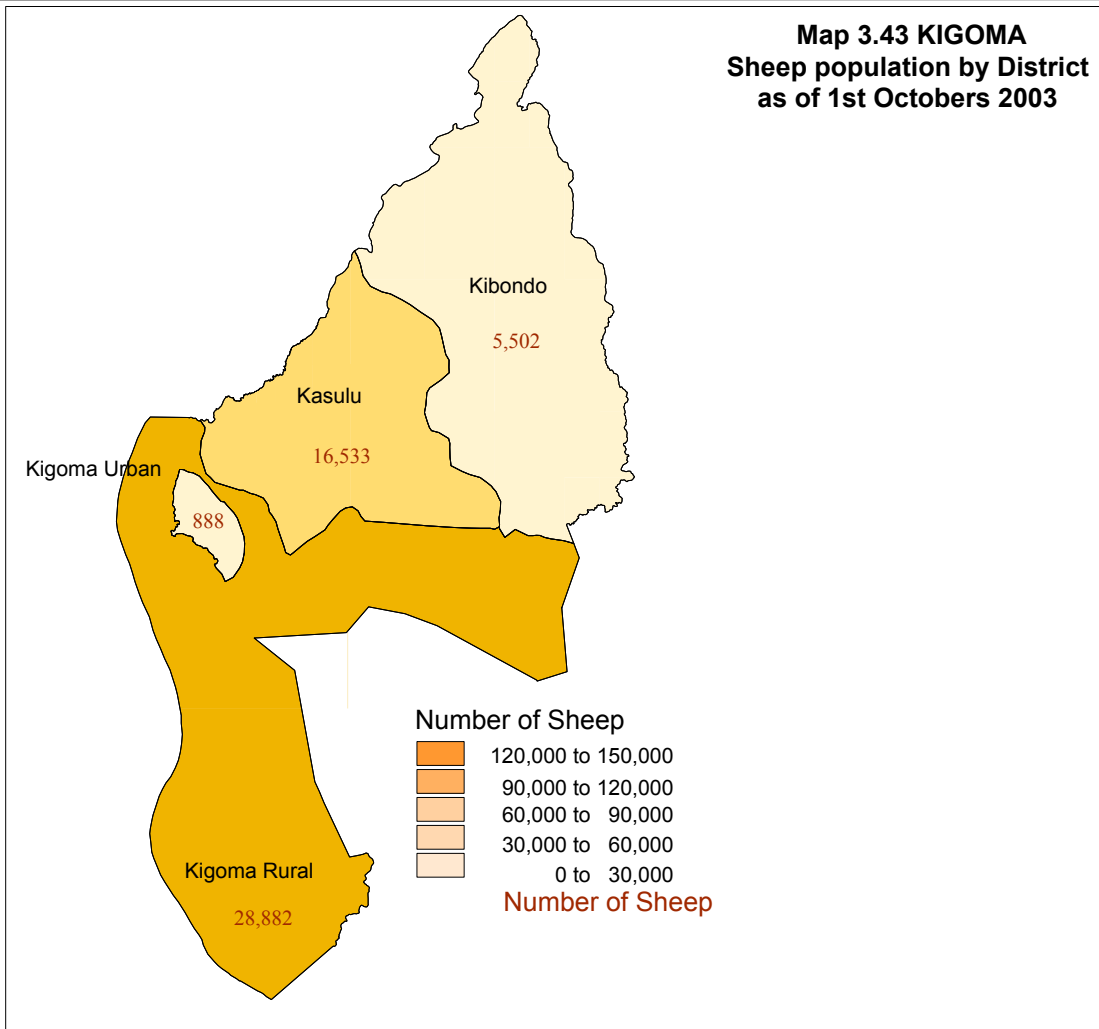
3.12.3.1 Sheep Population

The number of sheep-rearing households was estimated at 12,311 (6.2% of all agricultural households in Kigoma region) rearing 51,805 sheep, giving an average of 4 heads of sheep per sheep-rearing household. The district with the largest number of sheep was Kigoma rural with 28,882 sheep, 55.8%) followed by Kasulu (16,533 sheep, 31.9%), Kibondo (5,502 sheep, 10.6%), and Kigoma urban District had the least number of sheep (888 sheep, 1.7%) Chart 3.128 and Map 3.43). Kasulu district had the highest density (5 head per km²) (Map 3.44).



Sheep rearing was dominated by indigenous breeds that constituted 100 percent of all sheep kept in the region. No improved breeds were reported.





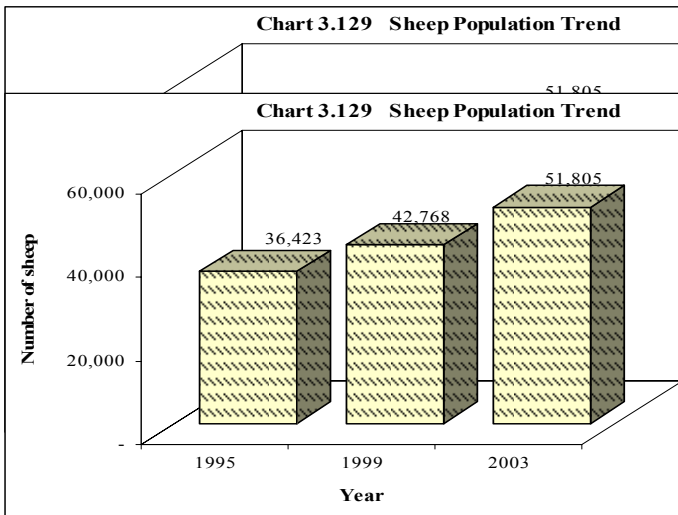
3.12.8.2 Sheep Population Trend

The overall annual growth rate of the sheep population for the eight year period from 1995 to 2003 is estimated at 1.4percent. The population increased at an annual rate of 1.1 percent from 36423 in 1995 to 42,768 in 1999,then at a rate of 1.2 percent from 42.768 in 1999 to 51,805 in 2003 (Chart 3.129)..

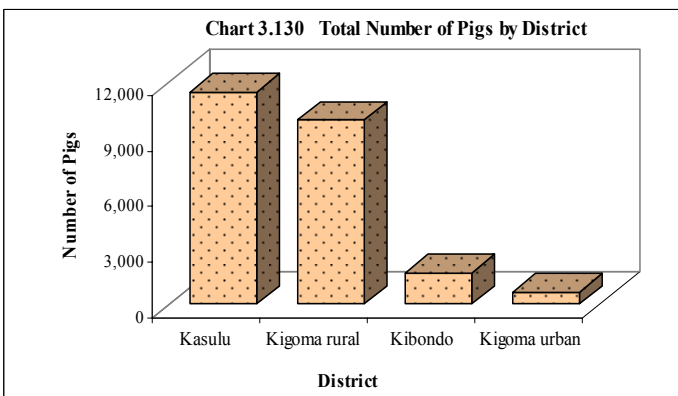
3.12.4. Pig Production

3.12.4.1 Pig Production

Piggery was the least important livestock keeping activity in the region after cattle, goats and sheep. The region ranked 10 out of 21 mainland regions, and had 2.4 percent of all pigs of Tanzania mainland. The number of pig-rearing agricultural households in Kigoma region was 5221 (2.6% of the total agricultural households) rearing 23,698 pigs. This gives an average of 5 pigs per pig-rearing household.

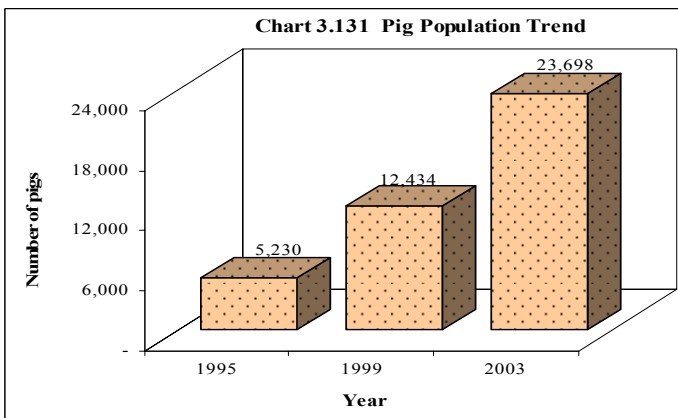


The district with the largest number of pigs was Kasulu with 11,444 pigs,(48.3 % of the total pig population in the region) followed by Kigoma rural (9,914 pigs, 41.8%), Kibondo (1,689 pigs, 7.1%) and Kigoma urban (652 pigs, 2.7 %) (Chart 3.130). However, Kasulu district had the highest density (3.2 head per km2) (Map 3.45).



3.12.4.2 Pig Population Trend

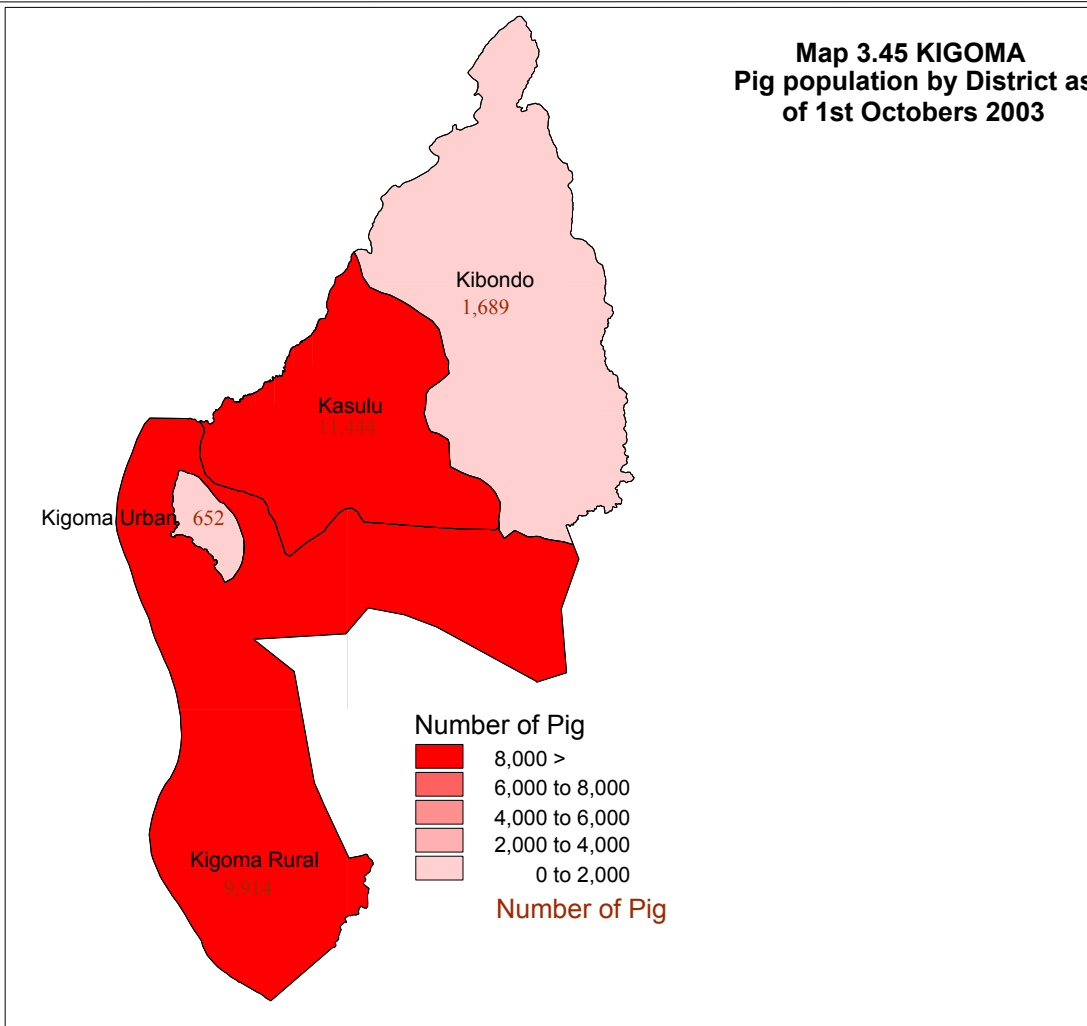
The overall annual growth rate of the pig population for the eight years period from 1995 to 2003 was 4.5 percent. During this period the population increased from 5,230 in 1995 to 23,698 in 2003. The growth rate was 1.9 percent during the four years from 1999 to 2003 in which pig population increased from 12,434 to 23,698 (Chart 3.131 and Map 3.46)



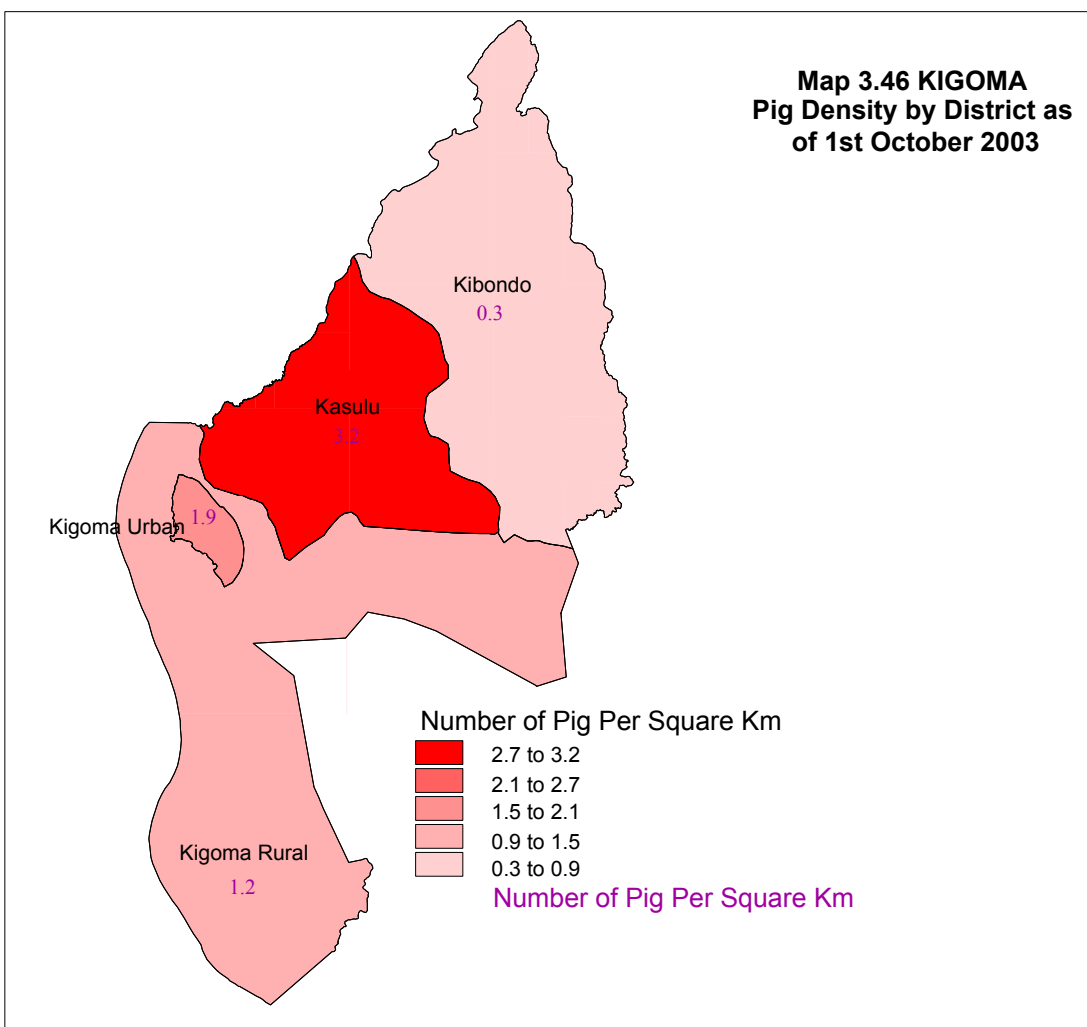
3.12.5 Chicken Production

The poultry sector in Kigoma region was dominated by chicken production. The region contributed 2.4 percent to the total chicken population for Tanzania Mainland.

**Map 3.45 KIGOMA
Pig population by District as
of 1st October 2003**



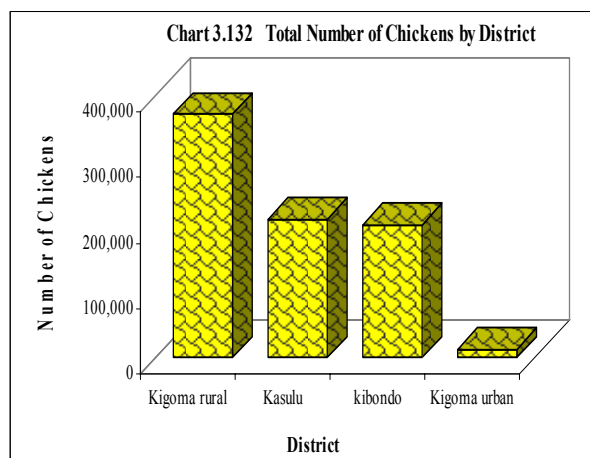
**Map 3.46 KIGOMA
Pig Density by District as
of 1st October 2003**



3.12.5.1 Chicken Population

The number of households keeping chicken was 81,952 raising about 797,537 chickens. This gives an average of 10 chickens per chicken-rearing household. In terms of total number of chickens in the country Kigoma ranked eighteenth out of the 21 Mainland regions.

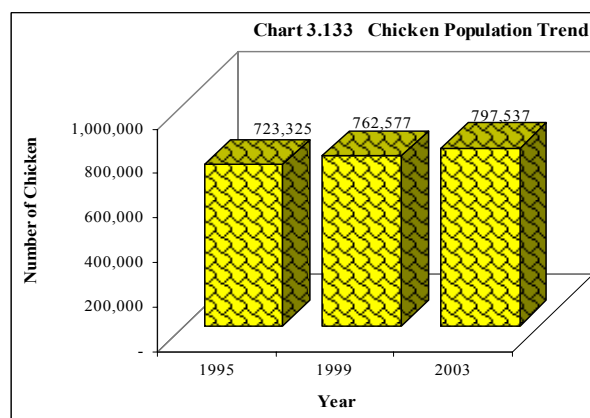
The District with largest number of chicken was Kigoma rural (371,692 chickens, 46.6% of the total number of chickens in the region) followed by Kasulu (211,326 26.5%), Kibondo (202,592 25.4%), and Kigoma urban (11,926 1.5%). (Chart 3.132 and Map 3.47). However Kasulu district had the highest density (59 head per km²) (Map 3.48)



3.12.5.2 Chicken Population Trend

The overall annual growth rate during the eight-year period from 1995 to 2003 was 1.1 percent. The population increased at a rate of 1.05 percent from 1995 to 1999 (Chart 3.133).

Ninety eight percent of all chickens in Kigoma region were of indigenous breed. The dominance of indigenous breed makes the population trend for the indigenous chickens' more-or-less the same as that of the total chickens in the region.



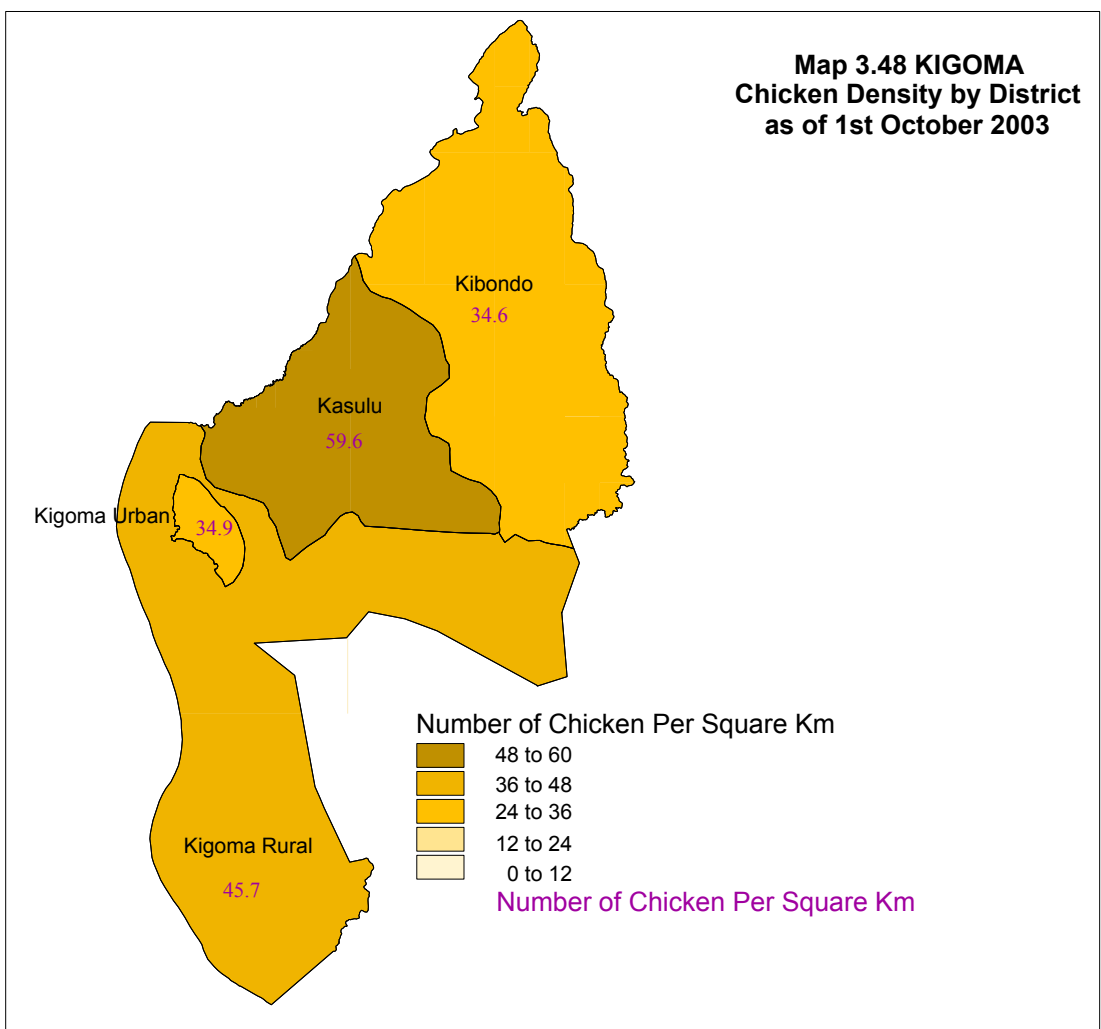
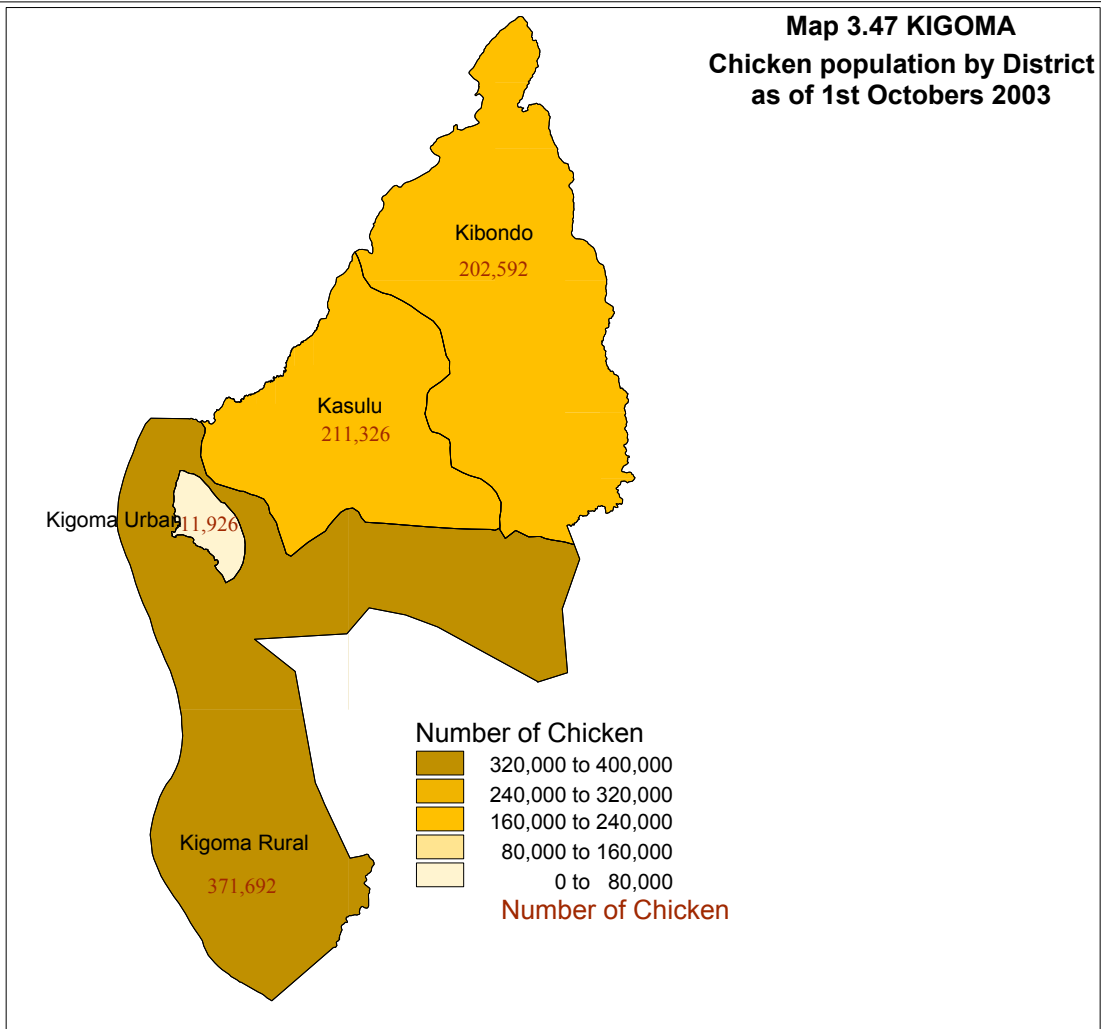
3.12.5.3 Chicken Flock Size

The results indicate that about 87 percent of all chicken-rearing households were keeping 1-19 chickens with an average of 6 chickens per holder. About 12 percent of holders were reported to be keeping the flock size of 20 to 99 chickens with an average of 34 chickens per holder.

Only 0.2 percent of holders had the flock sizes of more than 100 chickens with an average of 190 chickens per hold (Table 3:14)

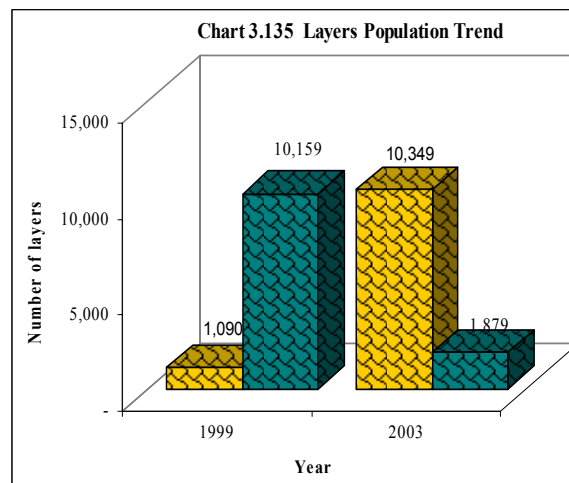
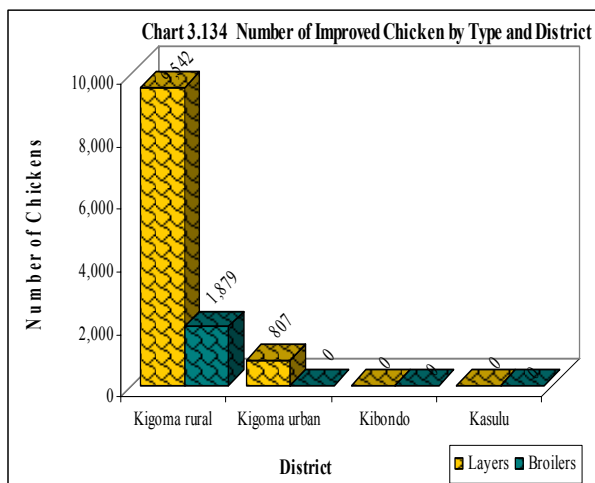
Table 3:14 Total Number of Households and Chickens Raised by Flock Size

Flock size	Chicken rearing Households		Number of Chicken	Average chicken by households
	Number	%		
1 - 4	33,489	41.3	85,545	3
5 - 9	22,305	27.5	148,227	7
10 - 19	15,108	18.6	191,735	13
20 - 29	4,547	5.6	103,594	23
30 - 39	3,407	4.2	111,065	33
40 - 49	712	0.9	28,640	40
50 - 99	1,433	1.8	102,695	72
100+	137	0.2	26,036	190
Total	81,139	100	797,537	10



3.12.5.4 Improved chicken breeds (layers and broilers)

Layers population in Kigoma region region increased at an annual rate of 76 percent for the period of four years from 1090 in 1999 to 10,349 in 2003 while broilers population decreased at annual rate of 35% from 10159 in 1999 to 1879 in 2003. The number of improved chicken was most significant in Kigoma rural district followed by Kigoma urban district (Chart 3.134)



3.12.6 Other livestock

There were 51,782 ducks, 592 turkeys, 9,935 donkeys in rural agricultural households of Kigoma region. Table 3-15: indicates the number of livestock kept in each district. The biggest number of ducks in the region was found in Kigoma rural district. (67% of all ducks in the region), followed by Kibondo (23%), Kasulu (9%), and Kigoma urban (1.5%).

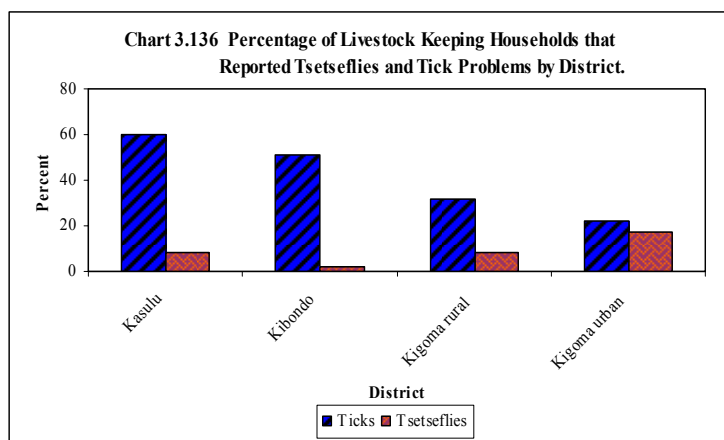
Table 3.15: Head Number of Other Livestock by Type of Livestock and District

District	Type of Livestock			
	Ducks	Turkeys	Donkeys	Other
Kibondo	11,786	0	7,963	0
Kasulu	4,493	592	1,972	2,171
Kigoma rural	34,730	0	0	2,015
Kigoma urban	773	0	0	0
Total	51,782	592	9,935	4,186

3.12.7 Pests and Parasites Incidences and Control

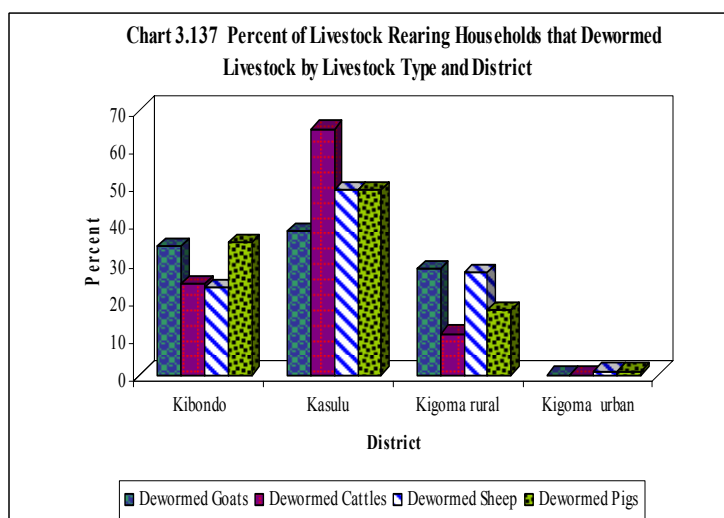
Ticks problems were reported by 50 percent of livestock-keeping households while tsetsefly problems were reported by 6 percent of such households. (Chart 3.136) shows that there was predominance of tick related diseases over tsetsefly related diseases. Incidences of both problems were highest in Kasulu district but lowest in Kigoma urban district. (Map 3.49).

The most practiced method for controlling ticks was spraying with 40 percent of all livestock-rearing households having the problem using that method. Other methods used were dipping (34%), other traditional methods like hand picking (5%), and smearing (1%) However, 20% of livestock-keeping households did not use any method.



3.12.7.1 Deworming

Livestock rearing households that dewormed their animals were 36,738 (61% of the total livestock rearing households in the region), cattle 20,111 households (93%), goats 22,391 households (30%), sheep 6,791 households (55%), pigs 5024 households (10%) (Chart 3.137).



3.12.8. Access to livestock services

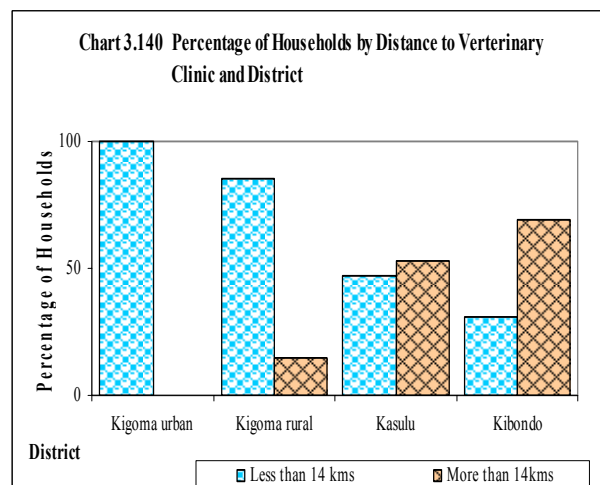
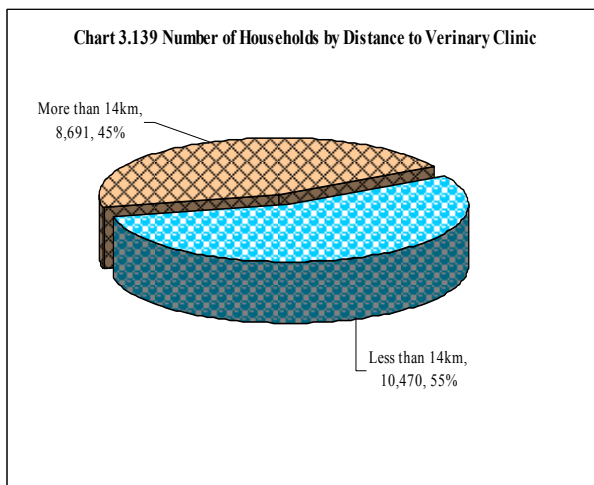
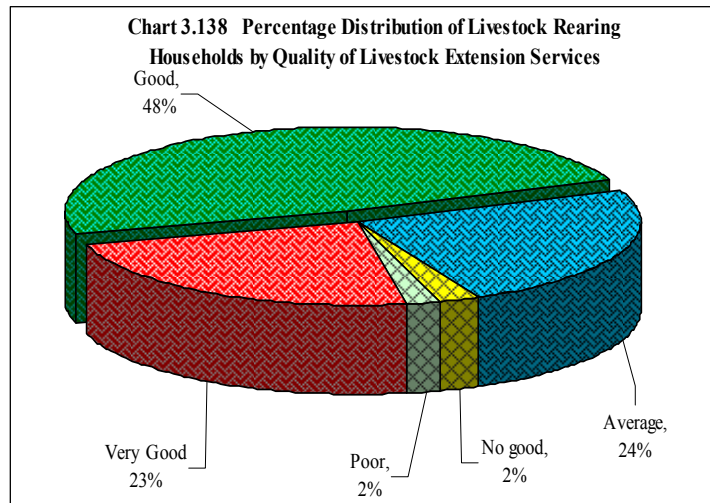
3.12.8.1 Access to livestock extension services

The total number of households that received livestock advice was 56,251 representing 93 percent of the total livestock rearing households and 29 percent of the agricultural households in the region. The main livestock extension agent was the government which provided service to about 97.7 percent of all households receiving livestock extension services. The rest of the households got services from NGOs/development projects (0.7%); Co-operatives (0.9%) and large farms (0.7).

About 48 percent of livestock rearing households described the general quality of livestock extension services as being good, 23 percent said they were very good, average (24%). However 2 percent of the livestock rearing households said the quality was not good whilst 2 percent described them as poor. (Chart 3.138)

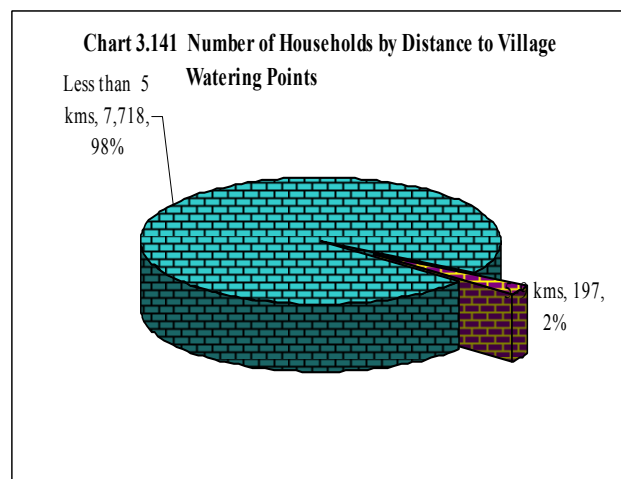
3.12.8.2 Access to Veterinary Clinic

Many veterinary clinics were located very far from livestock rearing households. About 55 percent of the livestock rearing households accessed the services, at a distance of more than 14 kms. Only 45 percent of the them accessed services within 14 kms from their dwellings (Chart 3.139). The most affected district was Kibondo district with livestock rearing households accessing the services at a distance of more than 14 kms. Kigoma urban district was not affected because about 100 percent of the households could access the service less than a distance of 14 kilometers.

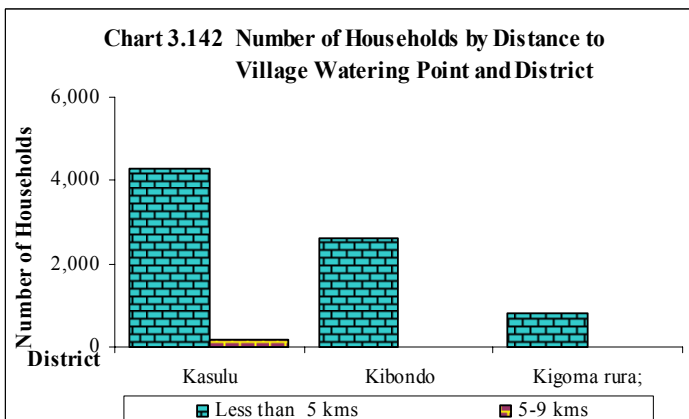


3.12.8.3 Access to Village Watering Points/Dam

The number of livestock rearing households residing less than 5 kms from the nearest watering point was 7,718 (98% of the reporting livestock rearing households in Kigoma region) whilst 197 households (2%) resided between 5 and 9 kms from the watering point. (Chart 3.141)



Kasulu district had the best livestock water supply with the majority of livestock rearing households residing within 5 kms from the nearest watering point. This is followed by Kibondo and Kigoma rural districts. Also in Kasulu district about 2 percent of the livestock rearing households had to travel a distance of between 5 and 9 kilometers to the nearest watering point (Chart 3.142).



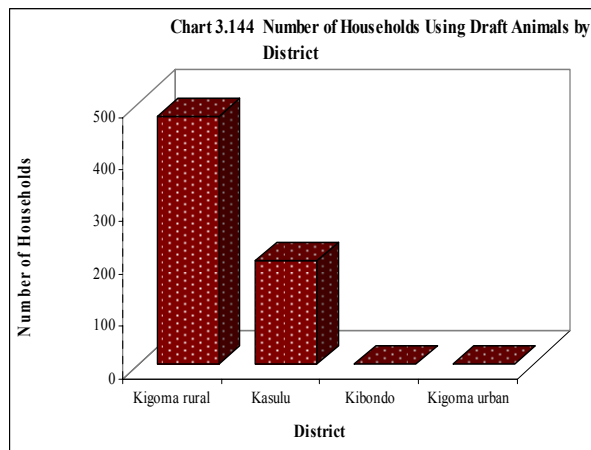
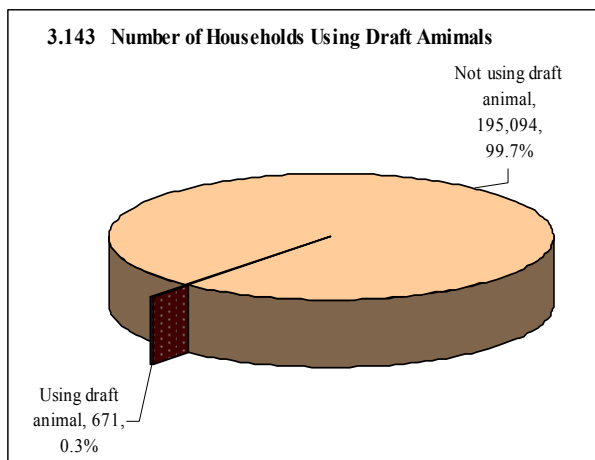
3.12.9 Animal Contribution to Crop Production

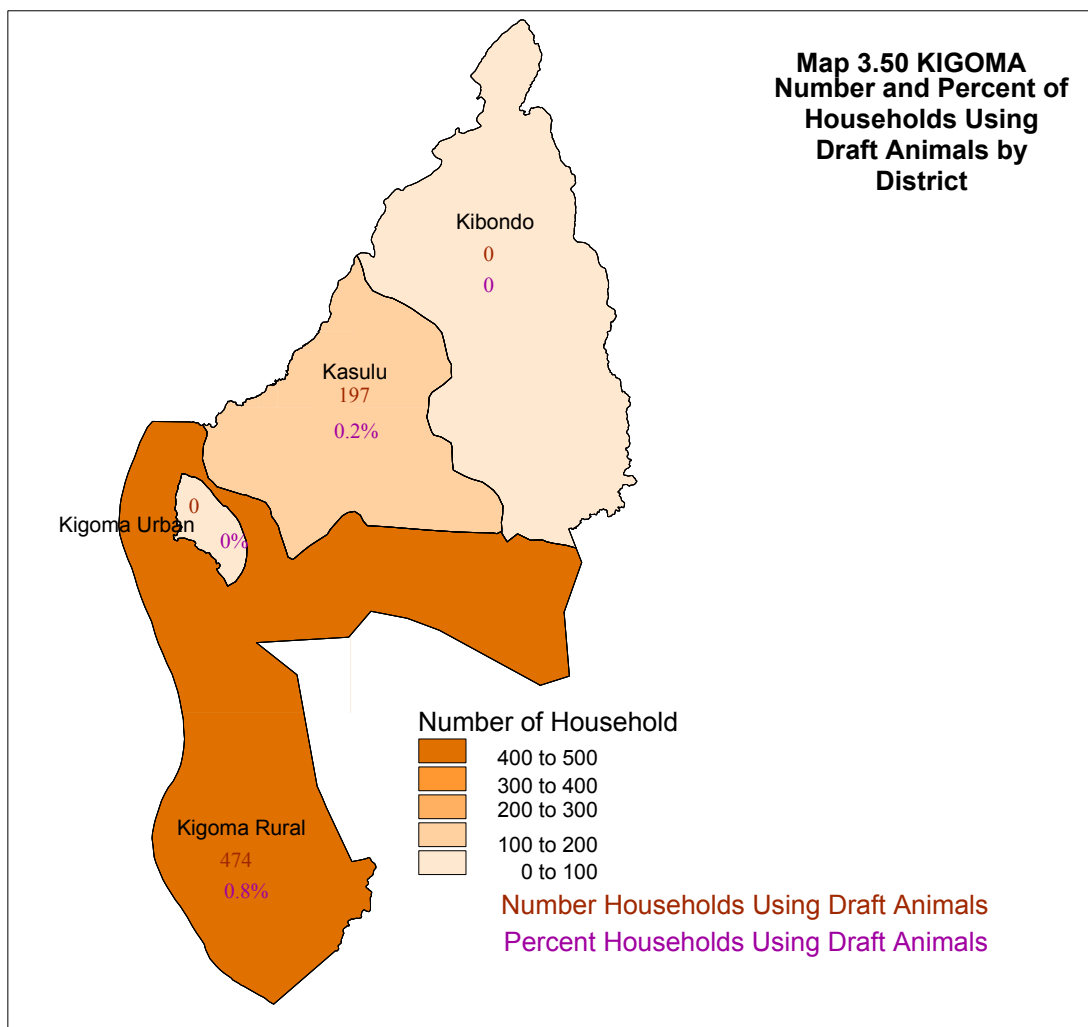
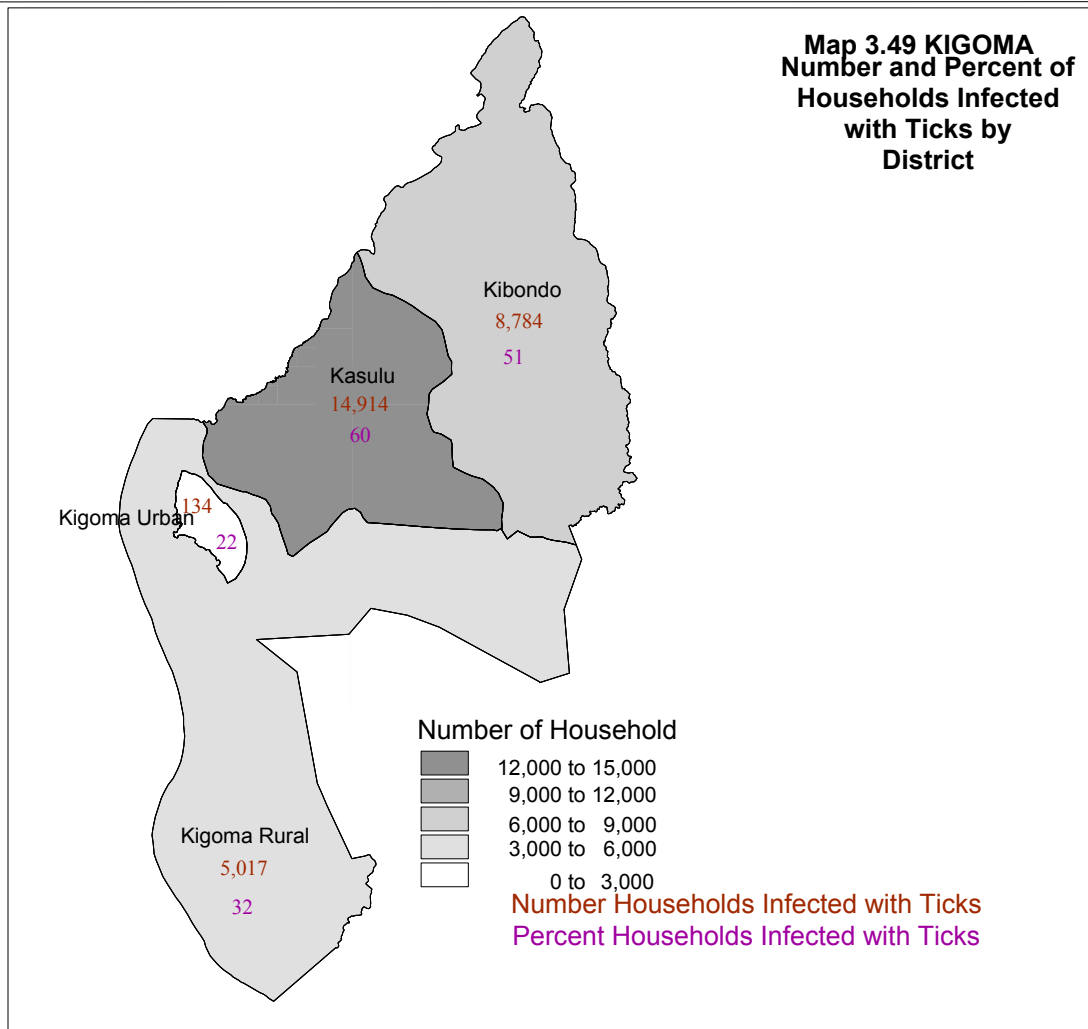
3.12.9.1 Use of Draft Power

Use of draft animals to cultivate land in Kigoma region was very limited with only 671 households (0.34% of the total agricultural households in the region) using them (Chart 3.143).

Kigoma rural 474 households (70.6% of household using draft animals in the region) and Kasulu (197 households, (29.4%), Use of draft animals was not reported in Kibondo and Kigoma urban district.

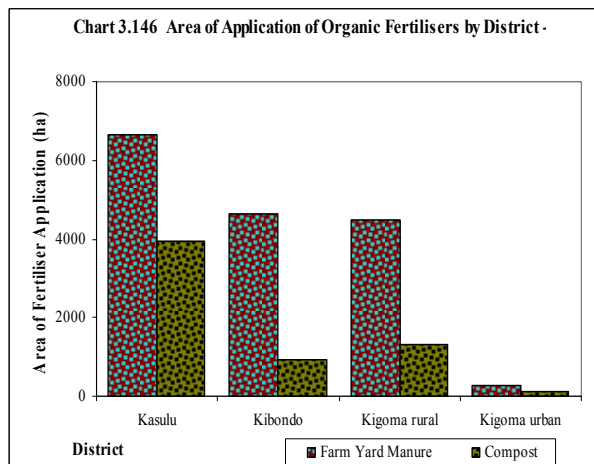
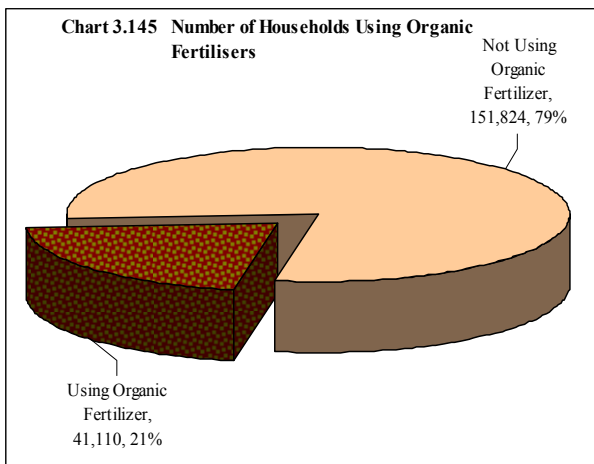
The region had 5,071 oxen, all in Kigoma rural and were used to cultivate 1,811 hectares of land. This represented only 0.2% of the total oxen found on the Mainland. (Map 3.50).





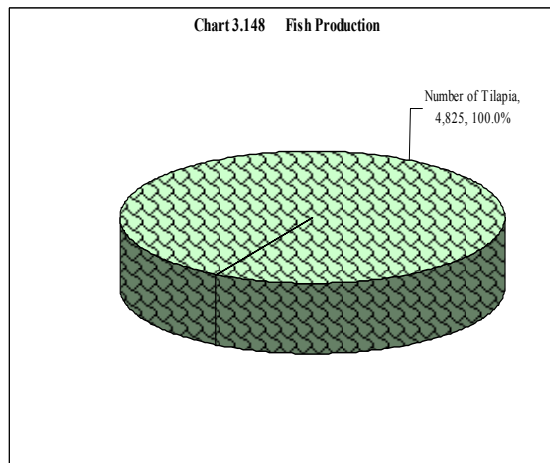
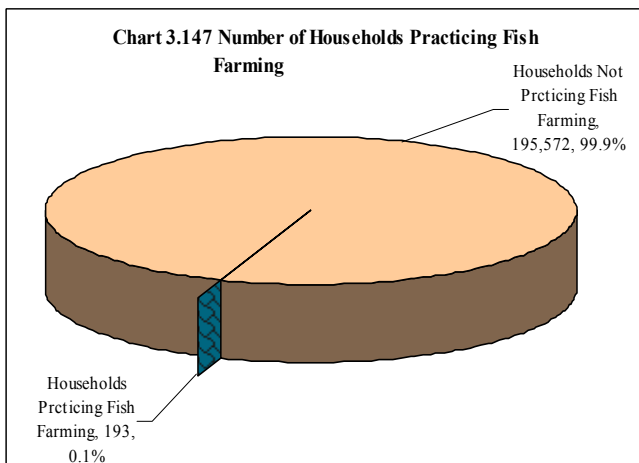
3.12.9.12 Use of Organic Fertilizers

The number of households using farm yard manure in Kigoma region was 41,110 (21% of the total crop growing households in the region) (Chart 3.145). The total area applied with organic fertilizer was 22,360 hectares of which 8051 hectares (36 percent of the total area applied with organic fertilizer of the area planted with annual crops and vegetables in Kigoma region during the long rainy season was applied with farm yard manure.



3.13 Fish Farming

The number of households involved in fish farming in Kigoma region was 193, representing 0.1 percent of the total agricultural households in the region (Chart 3.148) Kasulu was the only district with fish farming households. Fish farming was not practiced in the remaining three districts. (Chart 3.147).



The only source of fingerlings was the government/institutions.

All fish farming households in the region used the dug-out pond system and the main fish specie planted was Tilapia. The number of fish harversted in Kigoma region was 4,825 all of them were Tilapia. (Chart 3.149) .None of the fish farming households sold any fish. (Map 3.51)

3.14 Access to Infrastructure and Other Services

The results indicate that among the evaluated services, regional capital was the service that was located very far from most of the household's dwellings. It was located at an average distance of 129 kilometers from the agricultural household's dwellings. Other services and their respective average distances in kilometers from the dwellings were tarmac road (87.0), hospital (50.3), tertiary market (26.1) secondary school (22.3), secondary market (18.4), all weather roads (9.0), primary market (6.1), health clinic (5.6), feeder road (2.0) and primary school (1.5) (Table 3.15).

Table 3.16 Mean Distance from Household Dwelling to Infrastructures and Services by District.											
District	Secondary School	Primary School	All weather road	Feeder Road	Hospital	Health Clinic	Regional Capital	Primary Market	Secondary Market	Tertiary Market	Tarmac Road
Kibondo	17.8	1.8	2.0	1.3	37.7	9.1	224.3	4.7	20.8	19.0	105.5
Kasulu	24.7	1.3	15.0	1.1	42.2	4.3	108.6	8.0	22.4	31.3	90.3
Kigoma Rural	23.6	1.7	7.3	3.9	72.5	4.4	81.8	5.1	11.5	26.1	70.9
Kigoma Urban	3.8	1.2	0.8	0.3	7.0	1.7	7.6	3.5	17.8	5.8	5.2
Total	22.3	1.5	9.0	2.0	50.3	5.6	129.1	6.1	18.4	26.1	87.0

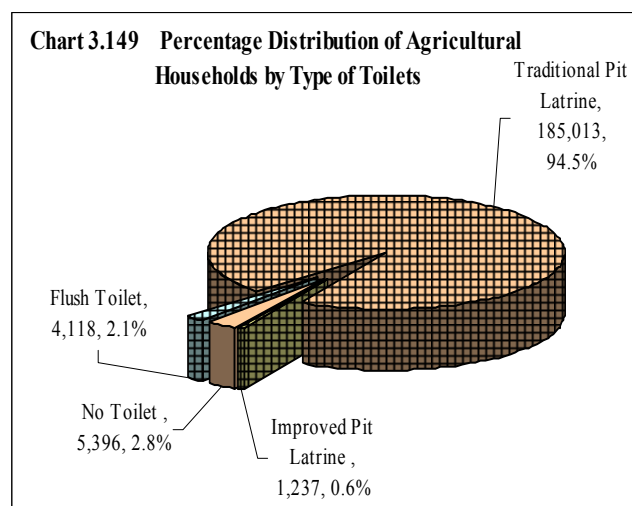
3.15 Poverty Indicators

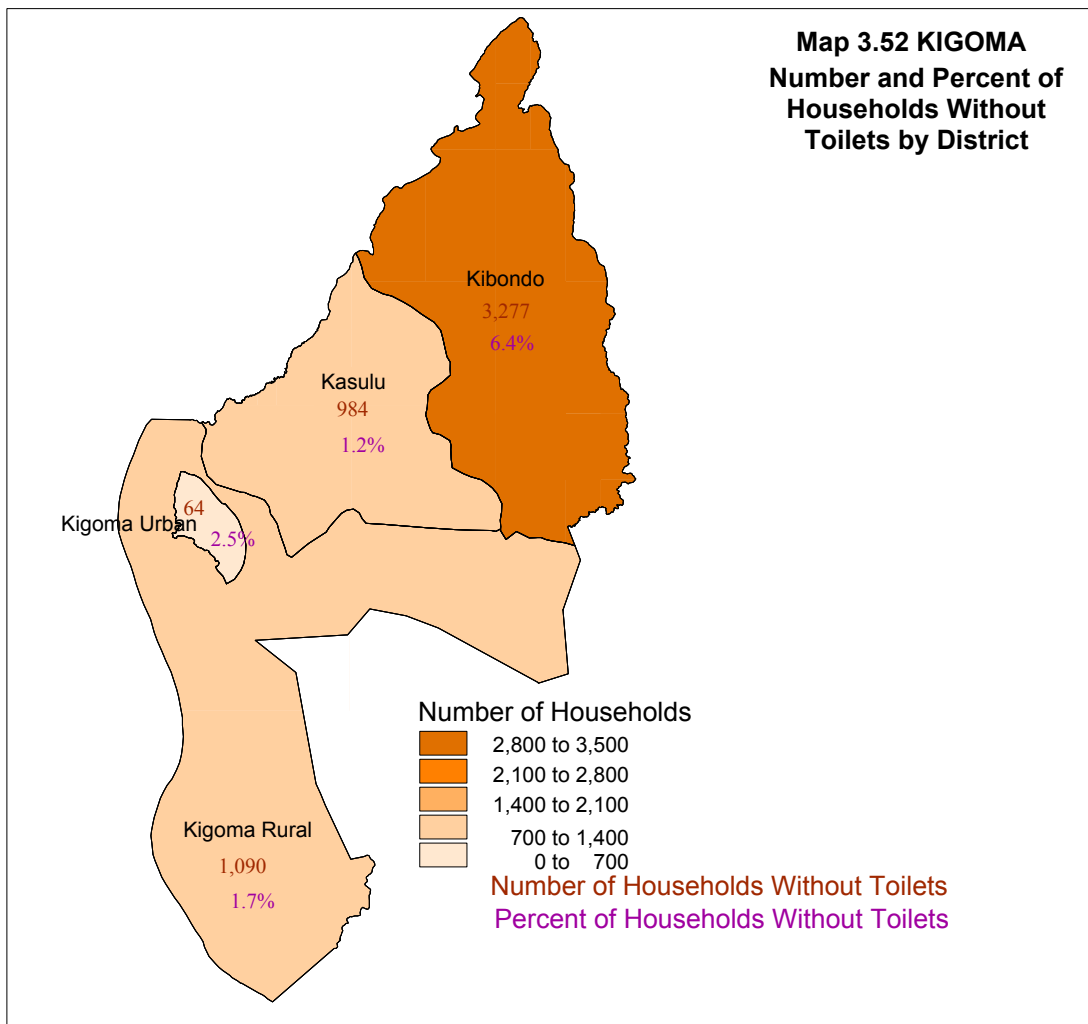
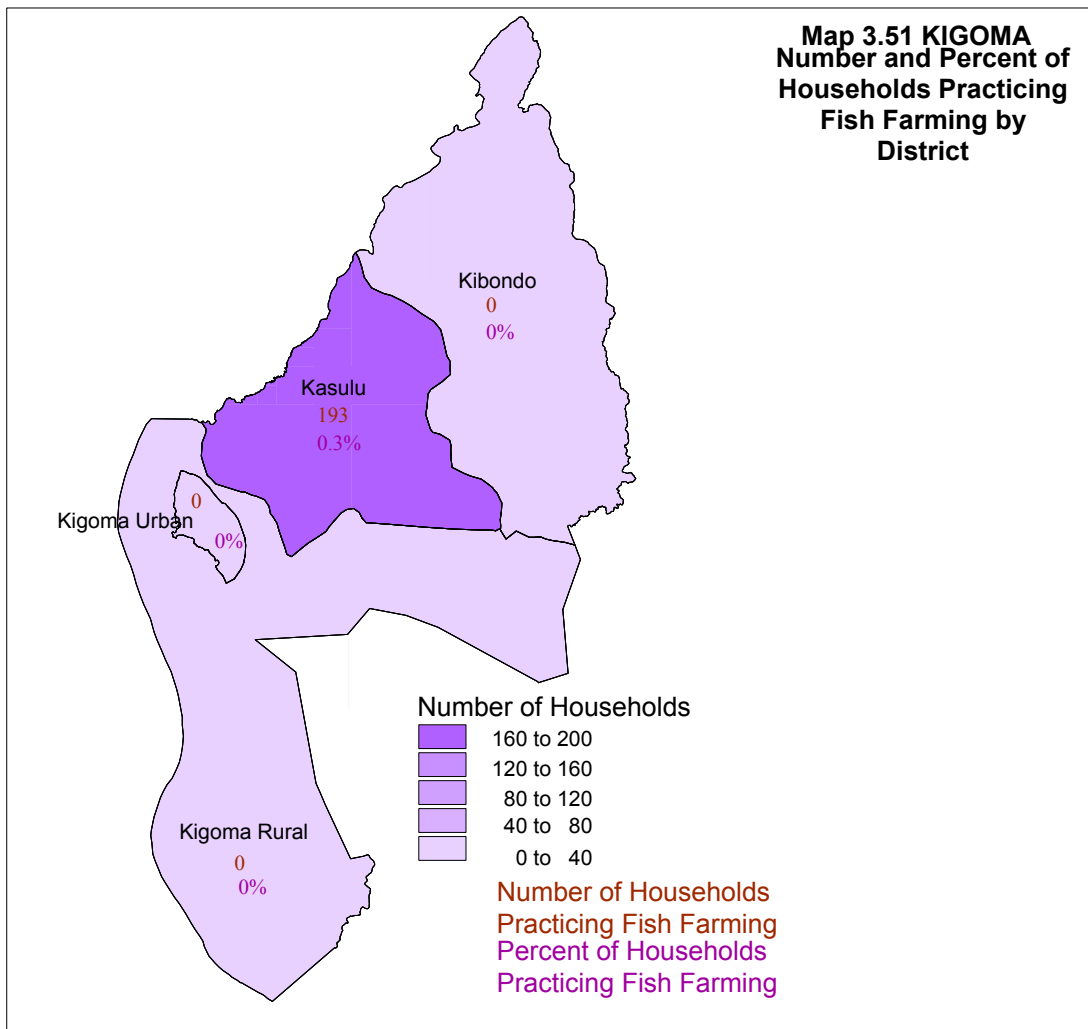
The agricultural census collected data on poverty for the purpose of providing the basis for tracking progress in poverty reduction strategies undertaken by the government

3.15.1 Type of toilets

A large number of rural agricultural households use traditional pit latrines (185,014 households, 94.5% of all rural agricultural households). Other types of toilets were used as follows flush toilets (4,119 households 2.1%), improved pit latrines (1,237 households 0.6%), However, 5,396 households (2.8%) had no toilet facilities (Chart 3.149).

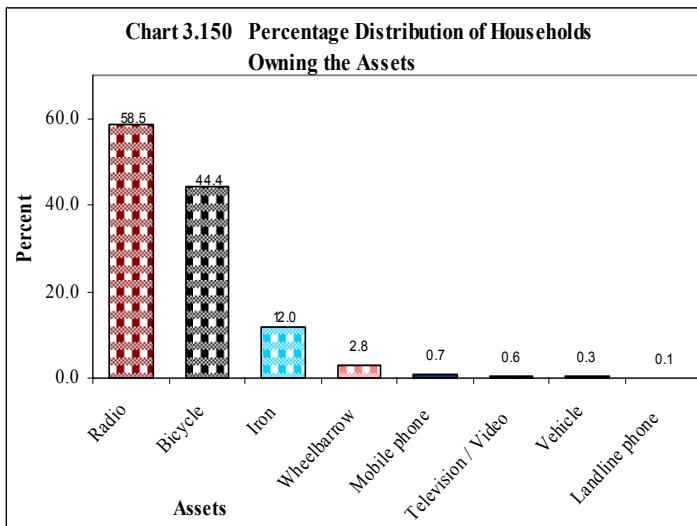
The distribution of the households without toilets within the region showed that 60.7 percent of them were found in Kibondo district and 19.8 percent were from Kigoma rural. The percentages of households without toilets in other districts were as follows Kasulu (18.2%) and Kigoma rural (1.2%). (Map 3.52)





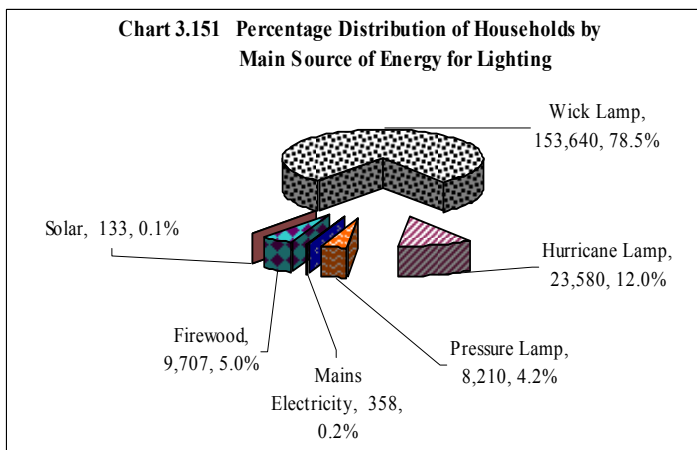
3.15.2 Household's Assets

Radio are owned by most rural agricultural households in Kigoma region with 114,459 households, (58.5% of the agricultural households in the region) owning this asset, followed by bicycle (86,895 households, 44.4%), iron (23,536 households, 12.0%), wheelbarrow (5450 households, 2.8%), mobile phone (1,404 households 0.7%), television/video (1,138 households, 0.6%), vehicle (678 households 0.3%) and landline phone (32 households, 0.01%) (Chart 3.152).



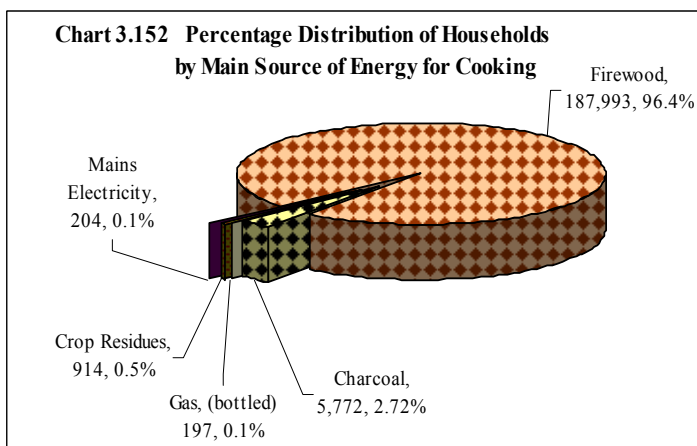
3.15.3 Sources of Lighting Energy

Wick lamp was the most common source of lighting energy in the region with 78.5 percent of the total rural households using this source of energy followed by hurricane lamp (12.0%), firewood (5.0%), and pressure lamp (4.2%), mains electricity (0.2%). The rest of energy sources accounted for 1 0.2 percent of the households, (Chart 3.151).



3.15.4 Sources of Energy for Cooking

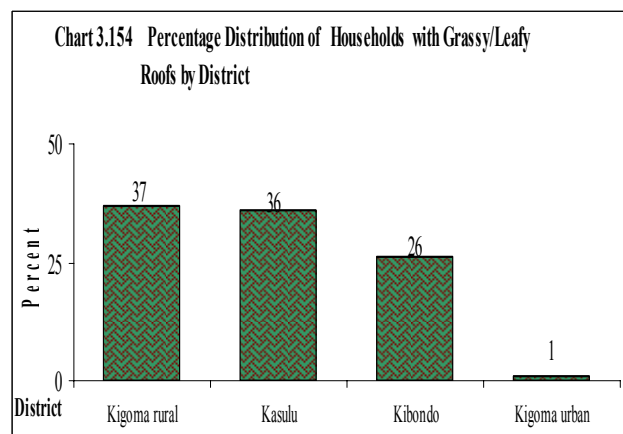
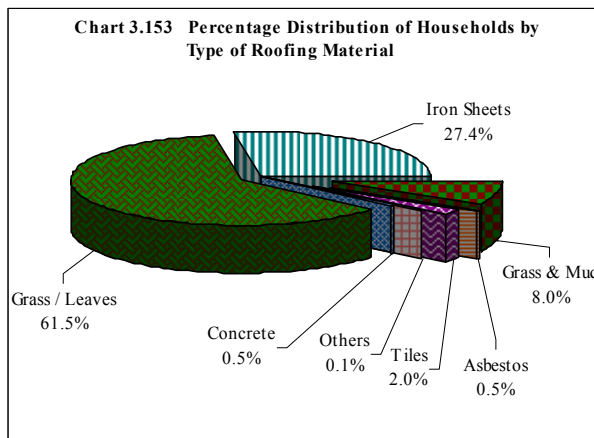
The most prevalent source of energy for cooking was firewood, which was used by 96.4 percent of all rural agricultural households in Kigoma region. This was followed by charcoal (2.7%). The rest of energy sources accounted for 1 percent. These were bottled gas (0.1%), crop residues (0.5%), mains electricity (0.1%).



3.15.5 Roofing Materials

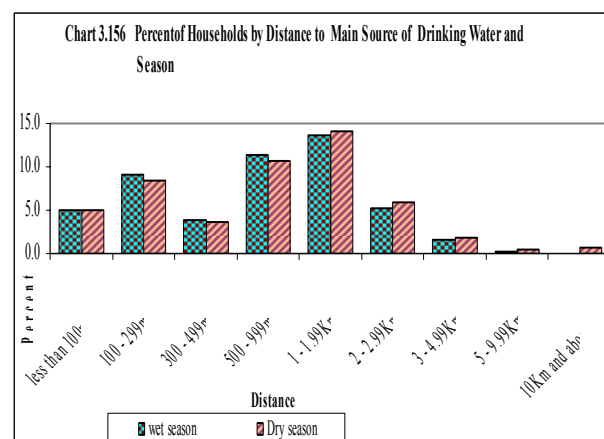
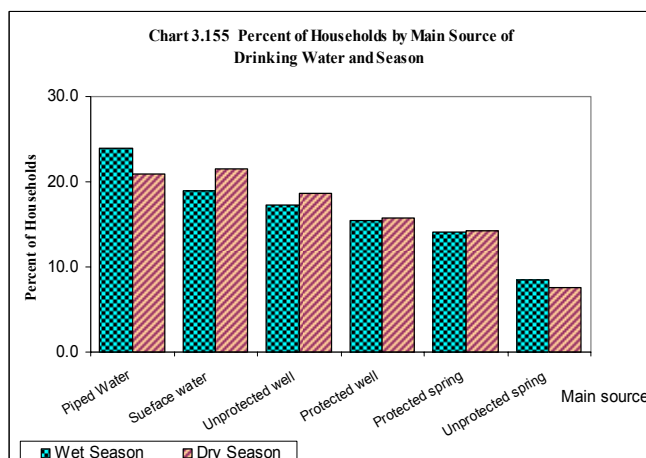
The most common material used for roofing the main dwelling was grass and/or leaves and it was used by 61.5 percent of the rural agricultural households. It was followed by iron sheets (27.4%), then grass/mud (8.0%), tiles (2.0%), asbestos and concrete (0.5%) each, and others (0.1%). (Chart 3.153 and Map 3.53).

Kigoma rural district had the highest percentage of households with grass/leaves roofs (37%), and was followed by Kasulu (36%), Kibondo (26%), and Kigoma urban (1%). (Chart 3.154)



3.15.6 Access to Drinking Water

The main source of drinking water for agricultural households in Kigoma region was the piped water (24.0% of households use piped water during the wet season and 20.9% of the households during the dry seasons. This was followed by surface water 19.0% during the wet season and 21.5% during the dry season, unprotected well (17.3% of households during the wet season and 18.7% the dry season), protected well (15.5% during the wet season and 15.7% during the dry season), protected spring (14.1% in the wet season and 14.3% in the dry season), unprotected well (8.5% in the wet and 7.6% in the dry season), the remaining source had less than 2 percent (Chart 3.155)



About 59 percent of the rural agricultural households in Kigoma region obtain drinking water within a distance of less than one kilometer during wet season compared to 55 percent of the households during the dry season.

However, 41 percent of agricultural households obtained drinking water from a distance of one or more kilometers during the wet season compared to 44 percent of households in the dry season. The most common distance from the source of drinking water was between 1 and 2 km (Chart 3.157).

3.15.7 Food Consumption Pattern

3.15.7.1 Number of Meals per Day

The majority of households in Kigoma region normally had two meals per day (80.5 percent of the households in the region), this is followed by 3 meals per day (16 percent) and 1 meal per day (3.3 percent). Only 0.2 percent of the households have 4 meals per day (Chart 3.158 and Map 3.54).

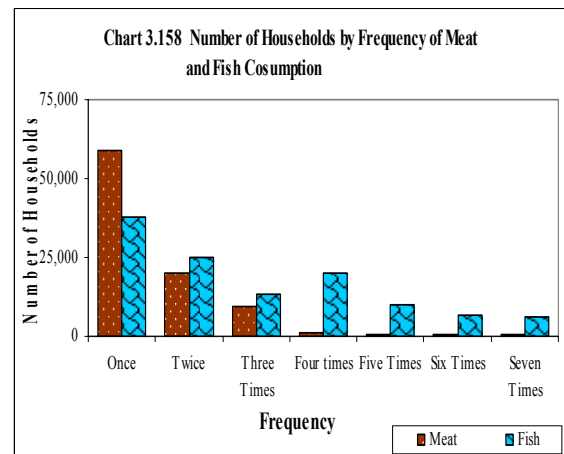
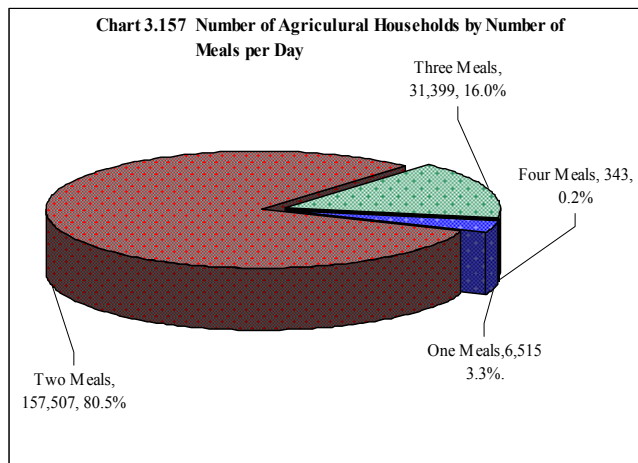


Chart 3.17: Number of Households by Number of Meals the Household Normally had per Day and District

District	Number of meals per day								
	One	%	Two	%	Three	%	Four	%	Total
Kibondo	3,623	7.0	43,556	84.7	4,219	8.2	0	0.0	51,407
Kasulu	1,174	1.5	66,132	83.3	11,897	15.0	194	0.2	79,396
Kigoma rural	1,719	2.8	45,956	73.6	14,646	23.4	194	0.2	62,470
Kigoma urban	0	0	1,854	74.4	638	25.6	0	0.0	2,492
Total	6,516	3.3	157,507	80.5	31,399	16.0	343	0.2	195,765

Kibondo district had the largest percentage of households eating one meal per day whilst Kigoma urban had the highest percentage of households eating 3 meals per day (Table 3.17)

3.15.7.2 Meat Consumption Frequencies

The number of agricultural households that consumed meat during the week preceding the census was 91,137 (46.5% of the agricultural households in Kigoma region) with 58,716 households (64.4% of those who consumed meat) consuming meat only once during the respective week. This was followed by those who had meat twice during the week (22.1%). Very few households had meat three or more times during the respective week. About 53.4 percent of agricultural households in Kigoma region did not eat meat during the week preceding the census. (Map 3.55).

3.15.7.3 Fish Consumption Frequencies

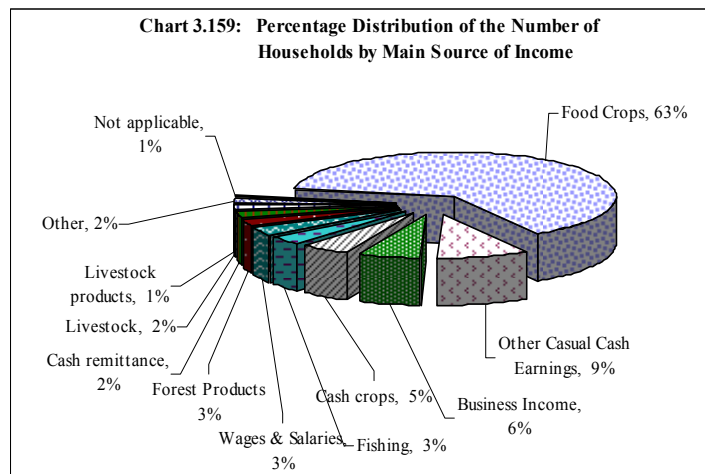
The number of agricultural households that consumed fish during the week preceding the census was 118,852 (60.7% of the total agricultural households in Kigoma region) with 37,834 households (31.8% of those who consumed fish) consuming fish once during the respective week. The number of households that consumed fish twice or more during the week in Kigoma region was 81,018. (68.1% of the agricultural households, that ate fish in the region during the respective period). About 39.3 percent of the agricultural households in Kigoma region did not eat fish during the week preceding the census (Chart 3.158 and Map 3.56)

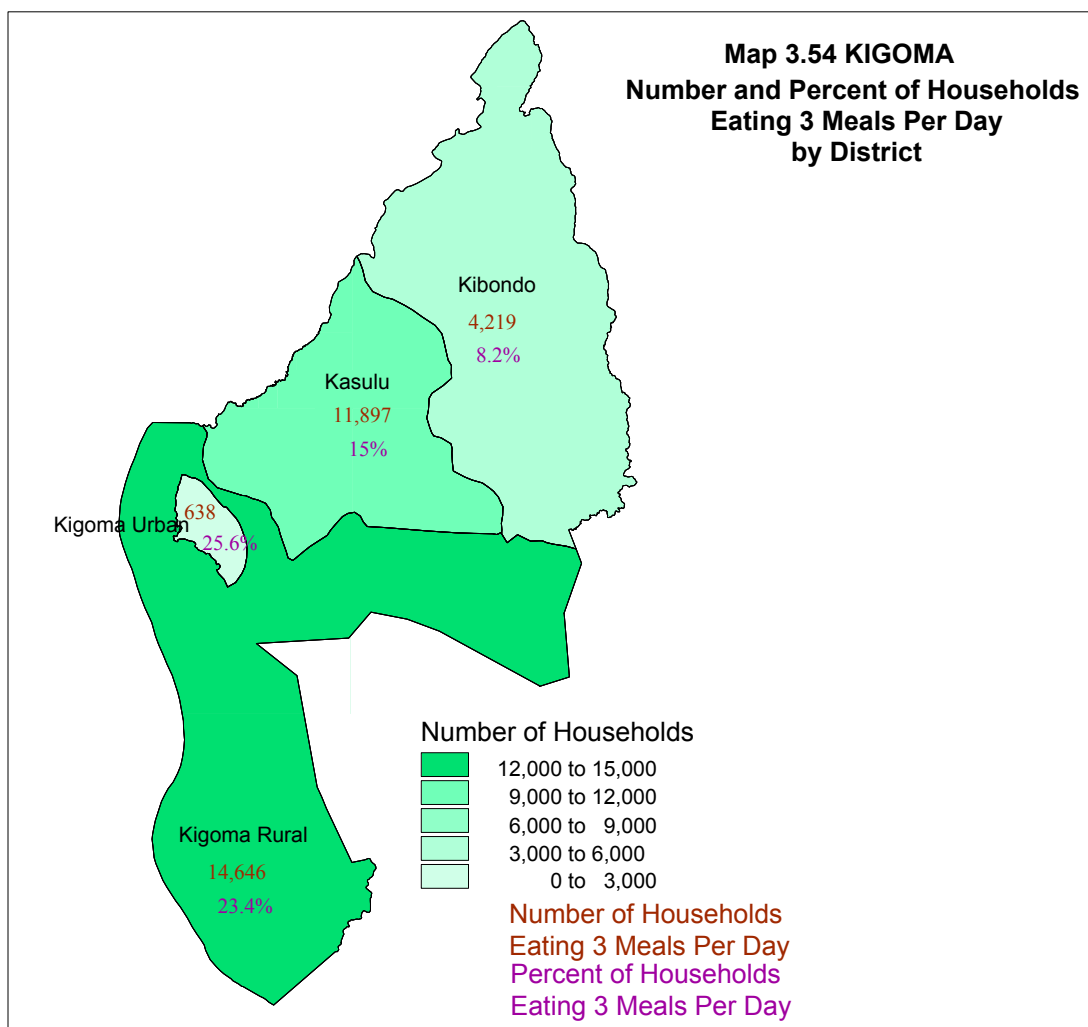
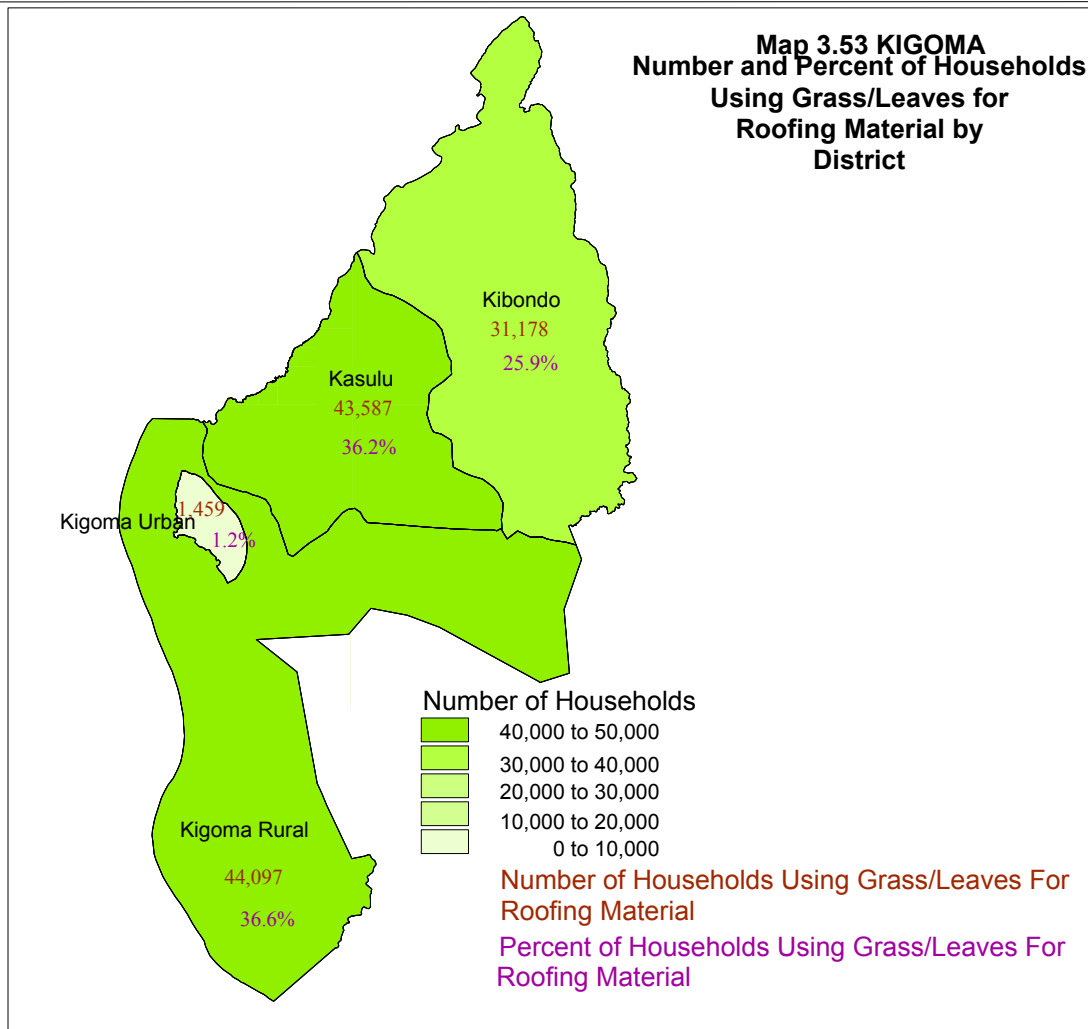
3.15.8 Food Security

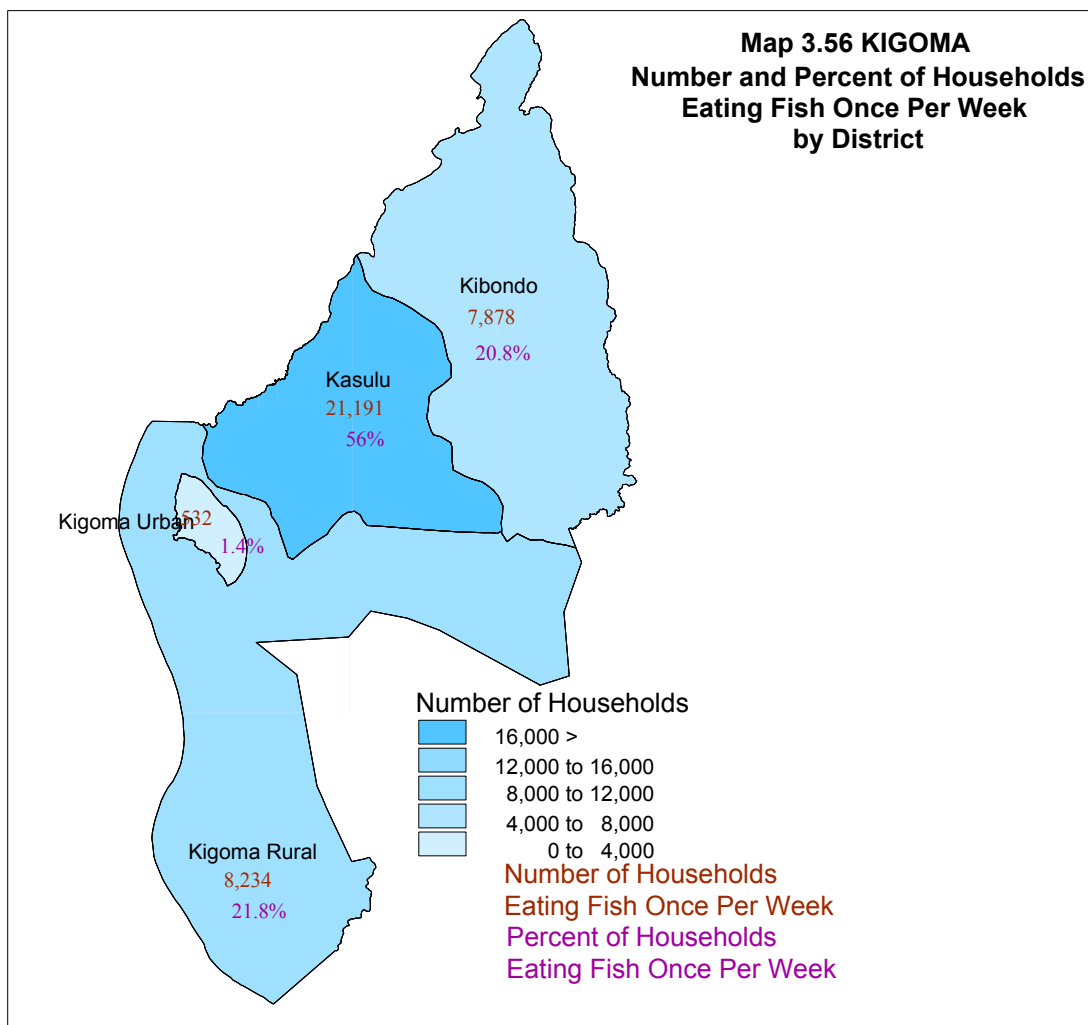
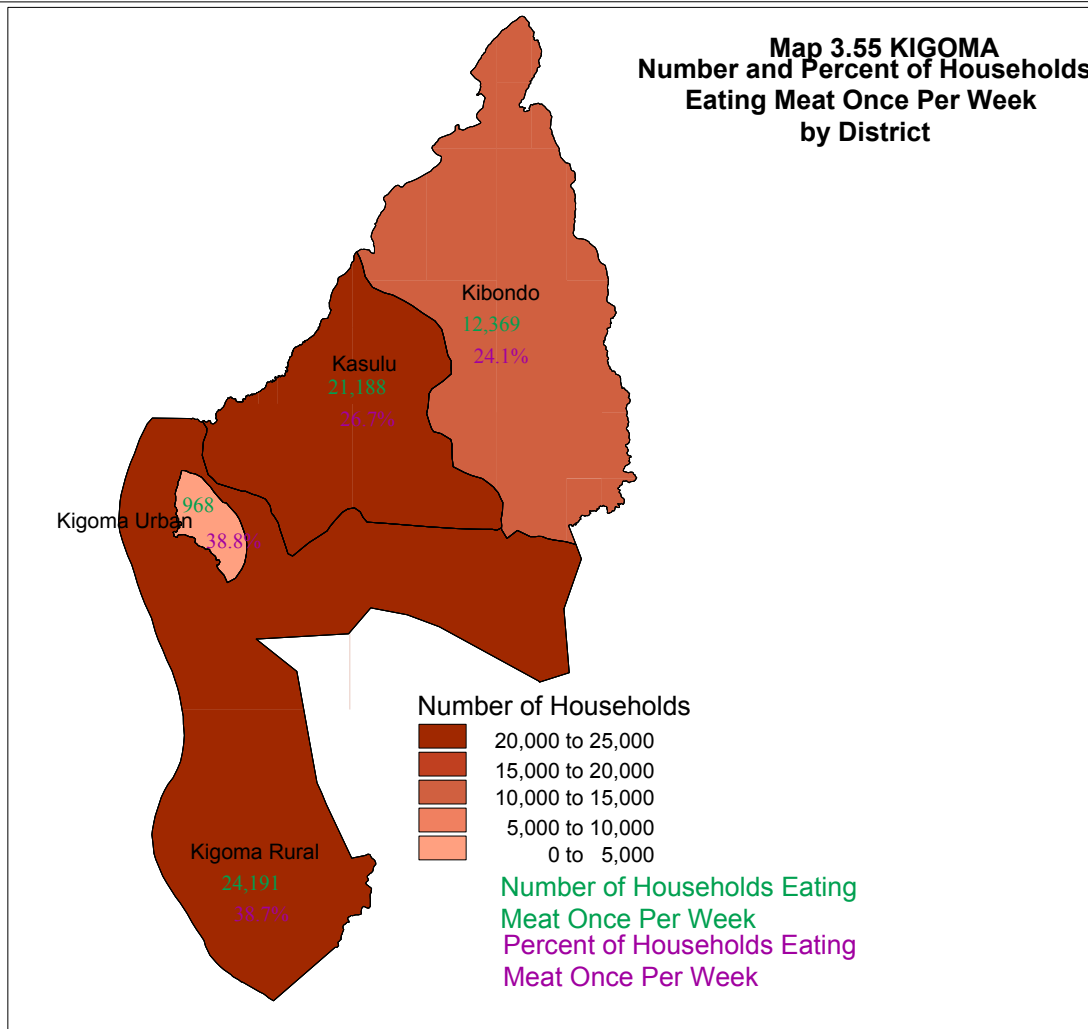
In Kigoma region, 124,132 households (63% of the total agricultural households in the region) said they never experienced problems in satisfying the household food requirement. However 42,476 (22%) said they rarely experience problems, 26% had sometimes experienced problems and 4 percent always had problems with satisfying the household food requirements. About 3.4 percent of the agricultural households said they had often experience food sufficiency problems. (Map 3.57)

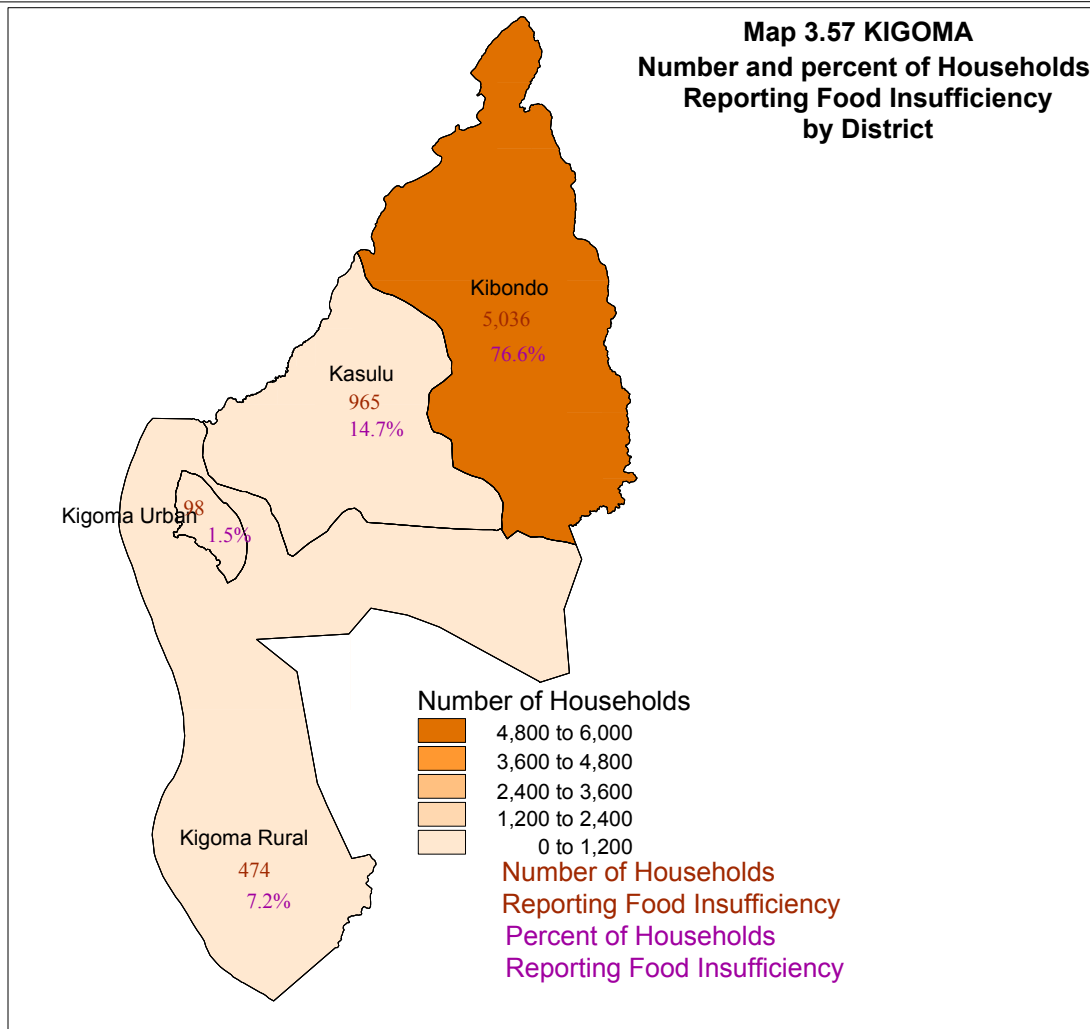
3.15.9 Main Sources of Cash Income

The main cash income of the households in Kigoma region was from the selling of food crops (69.2 percent of smallholder households), followed by casual labour (9.4%), business income (6.0%), sales of cash crops (5.2%), fishing (3.2%), wages& salaries (3.1%),sales of forest products (2.7%), cash remittances (2.3%), livestock 1.7%, livestock products (0.8%), others (0.6%) and not applicable (0.8%) (Chart 3.159).









4.0 KIGOMA PROFILES

This section presents the status of crops and livestock production, access to natural resources and services, demography and poverty for both the region as a whole and for each district.

4.1 Kigoma Region Profile

The regional profile describes the status of agriculture sector in the region and compares it with other region in the country.

Kigoma region has a land area of 265,000 hectares under crop production and it has an average number of crop growing households compared to other regions with the majority being crop only growing households. The land area under crop production per crop growing households is 1.3 ha and it has a low rate of utilization compared to the total land available to smallholders. The number of crop growing households per square kilometer is low to moderate. The regional has a moderate area planted with permanent crops. It has two rainy seasons with the same planted area in each. Kigoma is one of the least important regions for cereal production even though the yield is higher than many other regions with larger planted areas, very small areas of paddy and sorghum are grown. The most important annual crop in Kigoma is beans and it has one of the highest productions. The region also has the fourth largest planted area of cassava in Tanzania. Small to moderate quantities of groundnuts are also grown. The production of vegetables and cash crops is relatively unimportant compared to other regions.

The major permanent crop in Kigoma is oil palm and it has 60 percent of the total planted area of the crop in Tanzania. It also the fourth largest planted areas of bananas and oranges.

In relative terms, Kigoma has a moderate planted area with irrigation compared to other regions and it appears that there has been a large increase in the number of households with irrigation over a period of 10 years. Most of the irrigation water is obtained from rivers and the method of obtaining water is equally split between buckets /watering cans and gravity. Field application of irrigation water is mainly by bucket/watering cans and this is closely followed by flood.

All land preparation is done by hand and only a small proportion of the planted area has farm yard manure. Very little pesticides are use. Storage is normally in sacks or open drum. The region has one of the highest percent of households selling crops. Most processing was done by neighbours machine, however the region has the highest percent of processing done by traders. A large number of the households in Kigoma sell their processed crop, mostly in the local market or trade store the percentage of smallholder households receiving extension services is one of the highest in the country.

Moderate numbers of eucalyptus is planted in the region and most of the erosion facilities are bunds.

Kigoma can be characterized as a low livestock producing region with fish from Lake Tanganyika possibly substituting livestock as a source of protein. It has a small livestock population with approximately equal numbers of cattle and goats which are almost entirely indigenous. Very little milk is produced and the farm gate price is average. It has very few sheep and pigs.

Kigoma has the 4th smallest chicken population in the country. A small area of organic fertilizer is applied and those that do apply it to a small area, possibly reflecting the low availability. Very little land is cultivated using draft animals. Apart from the high rate of helminthiosis, Kigoma has one of the lowest disease infection rates.

Access to livestock services is moderate to good. In relation to livestock population it receives disproportionately more extension advice compared to other regions with much higher livestock populations. Little fish farming is carried out in the region.

4.2 District Profiles

The following district profiles highlight the characteristics of each district and compare them in relation to population, main crops, livestock, production, productivity, access to services, resources and levels of poverty.

4.2.1 Kibondo

Kibondo district had the second lowest number of households in the region and it has also the third largest percentage of households involved in smallholder agriculture. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It had a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Kibondo district was annual crop farming, followed by permanent crop farming. The district had the second highest percent of households with no off farm income activities, as well as the lowest percent of households with more than one member with off farm income.

Kibondo had a relatively high percent of female headed households (19%) and it had one of the lowest average age of the household heads in the region, with a household size of five members per households and it is average for region.

Kibondo had a moderate literacy rate among smallholder households. The literacy rate for the heads of households was slightly higher than most districts in the region.

The district has the second lowest planted area in the region and among the largest planted area per households (0.3ha in the long rainy season and 0.4 ha in the short rainy season), the district was important for maize production in the region with a planted area of over 27195 ha, and the planted area per maize growing household was the highest in the region. The district had the moderate planted area of paddy in the region with 954 hectares. The planted area for sorghum was the largest in the region. Cassava production was moderate, accounting for 7 percent of the quantity harvested in the region. The district had no planted area of Irish potatoes. The production of beans in Kibondo was smaller than in other districts. Kibondo district had the second largest groundnut planted area in Kigoma region with a planted area per groundnut growing household of 0.34 ha. Vegetables production was moderate. Traditional cash crops (e.g. tobacco and cotton) were grown in small quantities.

Compared to other districts, Kibondo has the second lowest planted area for permanent crops which were dominated by banana (7,586 ha), coffee (426 ha) mango (326 ha) and avocado (202 ha). Other permanent crops were either not grown or grown in very small quantities. As with other districts in the region, most land clearing was done by bush clearance and tractor slashing; however there was a substantial area with no land clearing indicating bare ground before planting. Practically all land preparation was done by hand, however a very small amount of land preparation was done by tractor.

The use of farm inputs in the region is very small, however district differences exist. Kibondo had the lowest planted area with improved seed in the region as well as the highest proportion of households not using improved seeds. Though small, the district had the second highest planted area with fertilizers (farm yard manure, compost and inorganic fertilizer), and most of this was with farm yard manure. Compared to other districts, Kibondo districts had a

moderate level of insecticides use, the use of herbicides was not reported. It had lower percent area with irrigation compared to other districts with 409 ha of irrigated land. The most common source of water for irrigation was from rivers using hand gravity, flood and bucket are the most common means of irrigation water application, no amount of sprinkler irrigation is used.

The most common method of crop storage in Kibondo district was in locally made traditional cribs; however the proportion of households not storing crops was average for the region. Kibondo had lower number of households selling crops, however for those who did not sell, the main reason for not selling was insufficient production. Kibondo was among the districts with the highest percentage of the households processing crops in Kigoma region and this was almost all done by neighbour's machine. The district also had the second lowest percent of households selling crops to local market and trade store compared to other districts and no sales to large scale farms, although very small access to credit in the district was to male-headed households only and main sources were the commercial bank and religious organization/NGO/ Project.

Moderate number of households received extension services in Kibondo district and most of this was from the government. The quality of extension services was rated between good and average by the majority of the households.

Tree farming was not very important in Kibondo (with 10,936 planted trees) and mostly *Gravellia* and *Eucalyptus*.

The second lowest percentage of households with erosion control and water harvesting structures was found in Kibondo district mostly erosion control bunds and drainage ditches, however it also had some vertiver grass and tree belts.

The district had the third largest number of cattle in the region and they were almost all indigenous. Goat production was the highest in the region; however it had the second lowest population of sheep in the region and a moderate number of pigs and chickens. Some ducks and donkeys were also found in the district. A number of households reported tsetse and tick problems and it had the second lowest number of households deworming livestock. No household reported to use draft animals, also no household reported to practice fish farming.

It had amongst the best access to primary schools, health clinics and primary markets and feeder roads compared to other districts. However, it had one of the worst accesses to district capital and tarmac roads. The percentage of households without toilet facility in Kibondo district was comparatively high 6.3 percent. Also it was amongst the districts with the lowest percent of households owning wheel barrows, vehicles, bicycles tv/video and mobile phones. The most common source of energy for lighting was the wick lamp and practically all households used firewood for cooking. The roofing material for most of the households in the districts was grass/leaves (61%) and iron sheets (28%). The most common source of drinking water was the unprotected well. It is one of the districts with the highest percent of households having two meals per day. The district had third low highest percent of households that did not eat meat and the lowest percent of households that did not eat fish during the week prior to enumeration and most households seldom had problems with food satisfaction.

4.2.2 Kasulu

Kasulu district had the largest number of households in the region and it had one of the highest percent of households involved in smallholder agriculture in the region. Most smallholders were involved in crop farming only followed by crop and livestock farming. Neither livestock only nor pastoralists were found in the district.

The most important livelihood activity for smallholder households in Kasulu district was annual crop farming, followed by permanent crop farming. However, the district had the highest percent of households with no farm incomes activities (43%), and also the second lowest percent of households with two or more members with off-farm income. Compared to other districts in the region Kasulu had relatively low percent of female headed households (11%) Its average households size of 5 members per households was equal to the average household size for the region. Kasulu had a comparatively high literacy among smallholder households' members (69%), and the literacy rate for the heads of households was also the highest in the region.

The land area utilized per household (2.0 ha) was slightly higher than the regional average of (1.9 ha). The district had the largest planted area in the region and among the largest planted area per household (0.4 ha) in the long rainy season but among the lowest planted area per household (0.3 ha) in the short rainy season. The district was very important for maize production in the region with a planted area of over 36,958 ha and the planted area per households was 0.5 ha which was more than average for region of is 0.4 ha. Paddy production was also important with a planted area of 1,959 hectares. Sorghum planted area was the second highest in the region. The district had larger planted area of cassava accounting 44 percent of the cassava planted area of 75,675. Oilseeds and vegetables are important in Kasulu with 31.6 percent of the groundnuts planted area being in the district.

Permanent crops are important in Kasulu district 47% of the total permanent crop planted area in Kigoma region. The permanent crops in the district include palm oil (8,747 ha), orange (543 ha) and bananas (2,762 ha). Other permanent crops were either not grown or were grown in very small quantities. As with other districts in the region, most land clearing is done by hand slashing, and a relatively small area of bare ground before planting. Practically all land preparation was done by hand, however a very small amount of land preparation was done by burning.

The use of inputs in the region was very small, however district differences existed, Kasulu had a small area planted with improved seeds. The district also had a small planted area applied with fertilizers (farm yard manure, compost and inorganic fertilizer) but practically all of it was farm yard manure. Compared to other districts in the region, Kasulu district had the larger area of insecticide and fungicide use also the use of herbicides was relatively large. It had the largest area of irrigation in the region with 2,186 ha of irrigated land. The most source of water for irrigation was mostly the river and almost all water application was done by gravity and the hand bucket.

The most common method of crop storage in Kasulu was locally made traditional cribs. The proportion of households not storing crops in the district was moderate to low when compared to other districts in the region. The district had the highest percent of households selling crops, however for those who did not sell, the main reason for not selling was insufficient production. Kasulu district had a high percent of households processing crops in the region and almost all the processing was done by neighbour machine. No processed crops were sold and very few households had access to credit.

A moderate number of households received extension services in Kasulu district and almost all of these were from the government and NGO/Development/ Project. The quality of extension services was rated between good and average by the majority of the households.

Tree farming is not important in Kasulu district (with 9,066 planted trees) and most of the trees grown were Eucalyptus spp and Sienna Spp. The second highest proportion of households with water harvesting bunds was found in Kasulu

district and it also had the largest number of erosion control bunds. The district had a large number of cattle in the region and they were almost all indigenous. Goats and sheep production was high compared to other districts. The district had the largest number of pigs in the region and second largest number of chickens, all of which were indigenous. Virtually no improved chickens were found in the district. The district had a moderate number of ducks, and a small number of donkeys and turkeys were found in the district. A small number of households reported tsetse and tick problems in Kasulu district. A largest amount of de-worming of livestock was practiced in the district; also it had a very small number of households using draft animals and a few households' practiced fish farming.

The percentage of households without toilet facility in Kasulu district was lowest in the region and it had the highest percent of households owning radios, and bicycles. The most common source of energy for lighting was the wick lamp and practically all households used firewood for cooking. The district had a high percent of households with grass roofs 55 percent and 27 percent of households had iron sheet roofing. The most common source of drinking water was from protected wells. Eighty three percent of the households in the district reported having two meals per day. The district had a high percent of households that did not eat meat or fish during the week prior to enumeration and most households never had problems with food satisfaction.

4.2.3 Kigoma Rural

Kigoma rural district had second largest number of households in the region and it had the large percent of households involved in smallholder agriculture in the region. Most smallholders were involved in crop farming only, followed by crop and livestock farming. It had a very small number of livestock only households and few pastoralists were found in the district.

The most important livelihood activity for smallholder households in Kigoma rural district was annual crop farming, followed by permanent crop farming. It had the second highest percent of households with no off-farm income activities and the second high percent of households with more than one member involved in off-farm income activities. Compared to other districts in the region, Kigoma rural district had a relatively low percent of female headed households (15%) and it had one of the high average ages of the households' heads. Its average household size of 6 members per households was more than the average household size for the region. Kigoma rural district had a comparatively moderate literacy rate among smallholders. It had the highest utilized area per household (2.2 ha) which was more than the regional average of 2.0 ha. The district was important for maize production in the region with a planted area of 16,958 ha and the planted area per households was among the highest in the region. Paddy production was moderately important with a planted area of 1,859 hectares and the production of sorghum was very small. Cassava and beans production in Kigoma rural district was a bit higher than in other districts, Irish potatoes and wheat were not grown. Oilseeds crops and vegetables were moderately important in the district, however, whilst the district had one of the largest areas planted with groundnuts; other crop seeds were not grown of the traditional crops (e.g. tobacco and cotton), cotton production was not very much important crop, whilst tobacco production was high. Compared to other district in the region, Kigoma rural district had a large area planted with permanent crops (30% of total permanent area planted in the region) mostly palm oil (382 ha) and mango (28 ha). Other permanent crop were either not grown or were grown in very small quantities. As with other districts in the region, land clearing by hand slashing was predominant and practically all land preparation was done by hand even though a very small land preparation was done by bush clearance.

The use of inputs in the region was small, however districts differences exist. Kigoma rural district had small area planted with improved seeds; the district also had the average percent of planted area applied with fertilizers (farm yard manure, compost and inorganic fertilizer), but most of this was farm yard manure. Compared to other districts, Kigoma rural district had the second lowest area applied with insecticides in the region. The percent of planted area with fungicides and herbicides were amongst the lowest in the region. It had one of the largest areas under irrigation (1,520 ha.). The most common source of water for irrigation was the rivers using land buckets/bucket. Watering cans were the most common means of irrigation water application. The most common method of crop storage was the locally made traditional crib; however the proportion of households not storing crops in Kigoma rural district was one of the highest in the region. The number of households selling crops in the district was among the largest in the region, however for those who did not sell, the main reason for not selling was insufficient production. The smallest percent of households processing crops in the region was found in Kigoma rural district and processing was mostly done by neighbor's machine. The district had the largest number of households processing crops on farm by neighbour machine. It also had the largest number of households processing crops on farm by hand. Most households that sell crops to local market/trade store. Access to credit in the district is very small. A very large number of households receive extension services in Kigoma rural district and almost all of these were from the government. The quality of extension services was rated between very good and average by the majority of the households.

Tree farming was not important in Kigoma rural district (with only 4,266 planted trees) and most of them were *Eucalyptus* spp, and *Gravellies*. The largest proportion of households in Kigoma rural district used erosion control bunds. Kigoma rural district had the largest number of cattle in the region and most of them were indigenous. It was one the districts with the large number of goats in the region. Kigoma rural was also the districts with the largest number of sheep, chickens and improved chickens. Small numbers of ducks and rabbits were found in the district. moderate number of households reported tsetse and tick problems in Kigoma rural districts and it had one of the smallest numbers of households deworming livestock. The use draft animal in the district was very small in the region and no households practiced fish farming. It was amongst the districts with the best access to primary schools, feeder roads, all weather roads, and health clinics, compared to other districts. However, it had the worst access to secondary schools, tarmac road, district capital, secondary markets and tertiary and tertiary market. Kigoma rural district had a small number of households with no toilet (1.7 percent). The district has the higher percent of households owning radio, iron and television/video The common source of energy for lighting was the wick lamp and practically all households used firewood for cooking. The district had a high percent of households with grass roofs, and only 27 percent of households having iron sheet. The most common source of drinking water was surface water (Lake/dam/river/stream). It had the third highest percent of households having two meal per day compared to other districts and the highest percent with three meals per day. The district had the lowest percent of households that did not eat meat or fish during the week prior to enumeration. Most households never had problems with food satisfaction.

4.2.4 Kigoma Urban

Kigoma Urban district had the smallest number of households in the region and one of the lowest percent of households involved in smallholder agriculture in the region. Most smallholders were involved in crop farming only, followed by crop and livestock farming. It had a very small number of livestock only households and no pastoralists were found in the district

The most important livelihood activity for smallholder in Kigoma Urban district was off-farm income followed by annual crop farming, permanent crop farming, livestock keeping/herding and remittances. The district had the lowest percent of households with no off farm income activities and the highest percent of households with more than one member involved off-farm income activities. Compared to other districts in the region, Kigoma Urban had moderate percent of female headed households (27%) and it had the second highest average age of the household heads. Its average household size of 6 members per household was more than the regional average household size.. Kigoma Urban had the second largest literacy rates among smallholders' members in the region (66%). It had one of the smallest utilized land area per household (0.9 ha) which was much lower than the regional average of 1.9 ha per household. The district had the second largest planted area in the region, per household (0.4 ha) in the long rainy season.

The district not important for maize production with a planted area of only 760 ha, however the planted area per household was moderate compared to other districts in the region. Paddy production was also not important with a planted area of 83 hectares and the production of sorghum was not important and irish potatoes were not grown in the district. The district had the lowest percent of cassava planted area in the region. The production of beans in Kigoma Urban district was relatively small in the region with planted area of 628 ha. Oil seed crops were not important and small amounts of groundnuts were grown in the district Vegetable production was also not important in the district, however the district had largest planted area per tomato growing household in the region Traditional crops (e.g. tobacco and cotton), were either not grown or were grown in very small quantities. Kigoma Urban had a small area planted with permanent crops (4,46 ha) dominated by palm oils (382 ha) and mango (28 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing was done by hand slashing, however 'no land clearing' was relatively high indicating bare land before cultivation. Practically all land preparation was done by hand, however very small amount of land preparation was done by bush clearance and burning. The use of inputs in the region was very small, however district differences exist. Kigoma Urban had the highest percent of area planted with improved seeds in Kigoma region and it had the highest planted area applied with fertilizers most of this used farm yard manure. Compared to other districts in the region, Kigoma Urban district had a low percent of its planted area applied with insecticides in the region and the use of fungicides was one of the lowest in the region and virtually no herbicides were used. It had the smallest area planted under irrigation in the region with only 42 ha of irrigated land rivers and wells were used as the sources of irrigation water and buckets/water cans were the most common means of irrigation water application.

The most common method of crop storage was in sacks/open drum; however the proportion of households not storing crops in the districts was one of the highest in the region. The district had the second highest number of households selling crops and the main reason for not selling was insufficient production. Kigoma Urban district had the higher percent of households processing crops on the far by hand and a small percent of households processed crops mainly by neighbors' machine and far on by machine. Access to credit was very small in the district and the main reason for not using credit was did not know how to get credit

A comparatively small number of households received extension services in Kigoma Urban district and all of these were from the government. The quality of extension services was rated between good and average by most of the households.

Tree farming was not important in Kigoma Urban (with only 209 planted trees) and is normally with senna spp with some jacaranda spp. The smallest number of erosion control and erosion control bunds was found in Kigoma Urban district. The district had the smallest number of cattle in the region and they were mostly indigenous. Goats and sheep production were also the smallest in the region and some pigs were found in the district. It had a comparatively large number of chickens; but a small number of ducks.. A moderate number of households reported tsetse flies and ticks problems and the district had the highest number of households de-worming livestock. The use of draft animals in the district was non existent and no fish farming was practiced in the district. It was amongst the districts with the best access to all weather roads, district capital, secondary schools, primary school, feeder roads, and health clinics and primary markets: however it had one of the worst accesses to secondary markets.

Kigoma Urban had high percent of households with no toilets facilities (2.3%). The district had the largest percent of households owning radios iron, and bicycles. A very small number of households reported owning vehicles and television/ videos. It had the largest number of households using electricity in the region the most common source of energy for lighting was the wick lamp and practically all households used firewood for cooking. The district had a large percent of households with grass roofs (35%) and only (61%) of households had iron sheet roofs. The most common source of drinking water were the pipe and the protected well. It had 74 percent of households having two meals per and 26 percent of households with 3 meals per day. The district had the second highest percent of households that did not eat meat during the week prior to enumeration; however it had low percent of households that did not eat fish during the preceding week. Most households in the districts never had problems with food satisfaction.

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TYPE OF AGRICULTURE HOUSEHOLD

2.1 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agricultural Households by type of household and District during 2002/03 Agriculture Year

District	Agriculture, Non Agriculture and Urban Households								
	Rural households involved in Agriculture	% of Total rural households	Rural households NOT involved in Agriculture	% of Total Rural households	Total Rural Households	% of Total households	Urban Households	% of Total households	Total Number of Households (from 2002 Pop. Census)
	Number	%	Number	%	Number	%	Number	%	Number
Kibondo	51,407	26.3	524	9.3	51,931	25.8	6,641	16.1	58,572
Kasulu	79,396	40.6	2,567	45.8	81,963	40.7	3,847	9.3	85,810
Kigoma Rural	62,470	31.9	2,431	43.4	64,901	32.2	7,184	17.5	72,085
Kigoma Urban	2,492	1.3	80	1.4	2,572	1.3	23,494	57.1	26,066
Total	195,765	100.0	5,602	100.0	201,367	100.0	41,166	100.0	242,533

2.2 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agriculture Households By Type of Holding and District during 2002/03 Agricultural Year

District	Type of Agriculture Household										Total Number of Agriculture Households	Total Number of Households Growing Crops	Total Number of Households Rearing Livestock
	Crops Only		Livestock Only		Crops & Livestock		Pastoralist		Total				
	Number of households	%	Number of households	%	Number of households	%	Number of households	%	Number of households	%			
Kibondo	34,041	25	266.1	29.2	17,100	29	0	0	51,407	26	51,407	51,407	17,367
Kasulu	53,306	39	0	0.0	26,091	44	0	0	79,396	41	79,396	79,396	26,091
Kigoma Rural	46,422	34	610	67	15,278	26	160	100	62,470	32	62,470	62,310	16,048
Kigoma Urban	1,887	1	34	3.8	571	1	0	0	2,492	1	2,492	2,492	605
Total	135,655	100	911	100.0	59,040	100	160	100	195,765	100	195,765	195,605	60,110

RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES

3.1f RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Sixth Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Kibondo	0	0	133	133	0	267	398
Kasulu	0	0	0	197	0	0	0
Kigoma Rur	0	0	929	928	0	0	913
Kigoma Urb	34	0	32	0	32	0	67
Total	34	0	1,095	1258	32	267	1,377

3.1g RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Seventh Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Kibondo	0	0	102	0	0	267	267
Kasulu	0	0	0	0	0	0	0
Kigoma Rur	0	0	0	0	0	0	0
Kigoma Urb	0	0	0	0	0	33	0
Total	0	0	102	0	0	300	267

HOUSEHOLDS DEMOGRAPHYS

3.0 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Households and Average Household Size By Sex of the Head of Household and District, 2002/03 Agricultural Year

District	Male			Female			Total		Average Household Size
	Number	%	Average Household Size	Number	%	Average Household Size	Number	%	
Kibondo	41,564	80.9	5	9,844	19.1	4	51,407	100.0	5
Kasulu	70,754	89.1	6	8,642	10.9	4	79,396	100.0	5
Kigoma Rur	53,177	85.1	6	9,293	14.9	5	62,470	100.0	6
Kigoma Urb	1,829	73.4	6	663	26.6	5	2,492	100.0	6
Total	167,324	85.5	6	28,442	14.5	4	195,765	100.0	5

3.1 HOUSEHOLDS DEMOGRAPHYS: The livelihood Activities/Source of Income of the Households

District	livelihood activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Kibondo	1	2	4	3	6	7	5
Kasulu	1	2	3	4	6	7	5
Kigoma Rur	1	2	5	3	7	6	4
Kigoma Urb	2	3	4	1	5	6	7
Total	1	2	3	4	6	7	5

3.2 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (row %)

Age Group	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Less than 4	74,563	48	80,107	52	154,670	100
05 - 09	89,769	50	90,221	50	179,991	100
10 - 14	83,827	51	80,023	49	163,850	100
15 - 19	61,776	50	61,091	50	122,868	100
20 - 24	39,020	44	48,674	56	87,694	100
25 - 29	35,203	48	38,617	52	73,820	100
30 - 34	25,337	44	31,946	56	57,283	100
35 - 39	24,189	46	27,846	54	52,035	100
40 - 44	23,402	50	23,718	50	47,120	100
45 - 49	16,273	49	17,089	51	33,361	100
50 - 54	13,479	46	15,676	54	29,155	100
55 - 59	10,027	48	10,866	52	20,892	100
60 - 64	9,935	50	9,788	50	19,723	100
65 - 69	7,750	56	6,115	44	13,864	100
70 - 74	4,830	55	3,947	45	8,776	100
75 - 79	3,991	72	1,529	28	5,520	100
80 - 84	1,856	70	805	30	2,661	100
Above 85	2,777	82	597	18	3,374	100
Total	528,004	49	548,654	51	1,076,658	100

3.3 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (column %)

Age Group	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Less than 4	74,563	14	80,107	15	154,670	14
05 - 09	89,769	17	90,221	16	179,991	17
10 - 14	83,827	16	80,023	15	163,850	15
15 - 19	61,776	12	61,091	11	122,868	11
20 - 24	39,020	7	48,674	9	87,694	8
25 - 29	35,203	7	38,617	7	73,820	7
30 - 34	25,337	5	31,946	6	57,283	5
35 - 39	24,189	5	27,846	5	52,035	5
40 - 44	23,402	4	23,718	4	47,120	4
45 - 49	16,273	3	17,089	3	33,361	3
50 - 54	13,479	3	15,676	3	29,155	3
55 - 59	10,027	2	10,866	2	20,892	2
60 - 64	9,935	2	9,788	2	19,723	2
65 - 69	7,750	1	6,115	1	13,864	1
70 - 74	4,830	1	3,947	1	8,776	1
75 - 79	3,991	1	1,529	0	5,520	1
80 - 84	1,856	0	805	0	2,661	0
Above 85	2,777	1	597	0	3,374	0
Total	528,004	100	548,654	100	1,076,658	100

3.4 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Sex and District for the 2002/03 Agricultural Year

District	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Kibondo	130,291	49	135,090	51	265,382	100
Kasulu	211,479	49	217,553	51	429,032	100
Kigoma Rur	179,151	49	188,655	51	367,807	100
Kigoma Urb	7,083	49	7,355	51	14,437	100
Total	528,004	49	548,654	51	1,076,658	100

3.5 HOUSEHOLDS DEMOGRAPHICS: Number of Agriculture Household Members 5 years and above Who Can Read and Write Languages by Type of Language and District, 2002/03 Agricultural Year

District	Read & Write									
	Swahili		Swahili & English		Any Other Language		Don't Read / Write		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	136,292	62.2	8,911	4.1	0	0.0	74,010	33.8	219,212	100
Kasulu	244,868	65.2	13,695	3.6	789	0.2	116,477	31.0	375,828	100
Kigoma Rur	191,960	61.1	11,869	3.8	0	0.0	110,468	35.1	314,297	100
Kigoma Urb	7,786	61.6	466	3.7	34	0.3	4,364	34.5	12,650	100
Total	580,906	63.0	34,940	3.8	823	0.1	305,318	33.1	921,988	100

3.6 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members 5 years and above By School Attendance and District , 2002/03 Agricultural Year

District	School Attendance							
	Attending School		Completed		Never Attended to School		Total	
	Number	%	Number	%	Number	%	Number	%
Kibondo	69,654	31.8	87,231	39.8	62,326	28.4	219,212	100.0
Kasulu	118,664	31.6	148,395	39.5	108,769	28.9	375,828	100.0
Kigoma Rur	97,793	31.1	113,239	36.0	103,265	32.9	314,297	100.0
Kigoma Urb	3,196	25.3	5,320	42.1	4,135	32.7	12,650	100.0
Total	289,307	31.4	354,185	38.4	278,496	30.2	921,988	100.0

3.7 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Main Activity and District, 2002/03 Agricultural Year

District	Main Activity									
	Crop/Seaweed Farming		Livestock Keeping / Herding		Livestock Pastoralist		Fishing		Government / Parastatal	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	105,980	48.3	1,091	0.5	349	0.2	132	0.1	1,493	0.7
Kasulu	189,692	50.5	2,737	0.7	197	0.1	587	0.2	1,564	0.4
Kigoma Rur	129,169	41.1	3,124	1.0	1,923	0.6	9,147	2.9	2,177	0.7
Kigoma Urb	3,618	28.6	230	1.8	0	0.0	399	3.2	201	1.6
Total	428,460	46.5	7,182	0.8	2,470	0.3	10,265	1.1	5,436	0.6

cont... Number of Agricultural Household Members By Main Activity and District, 2002/03 Agricultural Year

District	Main Activity									
	Private - NGO / Mission / etc		Self Employed (Non Farming) with Employees		Self Employed (Non Farming) without Employees		Unpaid Family Helper (Non Agriculture)		Not Working & Available	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	4,252	1.9	185	0.1	4,900	2.2	3,298	1.5	1,059	0.5
Kasulu	4,291	1.1	1,751	0.5	6,681	1.8	2,533	0.7	1,546	0.4
Kigoma Rur	3,416	1.1	4,779	1.5	15,071	4.8	1,218	0.4	617	0.2
Kigoma Urb	265	2.1	303	2.4	1,406	11.1	328	2.6	377	3.0
Total	12,223	1.3	7,018	0.8	28,059	3.0	7,378	0.8	3,599	0.4

cont... Number of Agricultural Household Members By Main Activity and District, 2002/03 Agricultural Year

District	Main Activity											
	Not Working & Unavailable		Housemaker / Housewife		Student		Unable to Work / Too Old / Retired / Sick / Disabled		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	216	0.1	0	0.0	62,953	28.7	32,771	14.9	533	0	219,212	100
Kasulu	591	0.2	1,160	0.3	113,581	30.2	42,449	11.3	6,467	2	375,828	100
Kigoma Rur	625	0.2	310	0.1	94,350	30.0	47,760	15.2	611	0	314,297	100
Kigoma Urb	67	0.5	303	2.4	3,164	25.0	1,623	12.8	365	3	12,650	100
Total	1,499	0.2	1,774	0.2	274,048	29.7	124,603	13.5	7975	0.9	921,988	100

3.8 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members By Level of involvement in Farming

District	Involvement in Farming									
	Works Full-time on Farm		Works Part-time on Farm		Rarely Works on Farm		Never Works on Farm		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	80,043	37	21,198	10	57,672	26	60,300	28	219,212	100
Kasulu	167,457	45	22,865	6	59,651	16	125,856	33	375,828	100
Kigoma Rur	108,727	35	36,429	12	42,570	14	126,571	40	314,297	100
Kigoma Urb	3,072	24	1,652	13	2,761	22	5,165	41	12,650	100
Total	359,298	39	82,144	9	162,654	18	317,892	34	921,988	100

3.9 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Under Standard One		Standard One		Standard Two		Standard Three		Standard Four	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	854	1.0	1,655	2	1,084	1	1,714	2	6,741	8
Kasulu	783	0.5	390	0	3,149	2	4,105	3	16,294	11
Kigoma Rural	308	0.3	786	1	1,845	2	2,959	3	11,488	10
Kigoma Urban	0	0.0	0	0	101	2	234	4	364	7
Total	1,945	0.5	2,831	1	6,178	2	9,012	3	34,888	10

cont... HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Standard Seven		Standard Eight		Training After Primary Education		Pre Form One		Form One	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	67,236	77	1,535	2	264	0	121	0	0	0
Kasulu	108,987	73	980	1	197	0	0	0	0	0
Kigoma Rural	77,442	68	303	0	150	0	156	0	0	0
Kigoma Urban	3,551	67	0	0	0	0	0	0	34	1
Total	257,215	73	2,819	1	611	0	277	0	34	0

cont... HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Form Two		Form Three		Form Four		Form Six		Training After Secondary Education	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	266	0	0	0	926	1	0	0	0	0
Kasulu	388	0	0	0	1,566	1	0	0	0	0
Kigoma Rural	464	0	315	0	1,392	1	0	0	1,538	1
Kigoma Urban	67	1	0	0	34	1	0	0	67	1
Total	1,185	0	315	0	3,918	1	0	0	1,604	0

cont... HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level							
	Tertiary Education		Adult Education		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%
Kibondo	0	0	2,549	3	0	0	87,231	100
Kasulu	0	0	5,084	3	0	0	148,395	100
Kigoma Rural	0	0	6,240	6	0	0	113,239	100
Kigoma Urban	0	0	334	6	0	0	5,320	100
Total	0	0	14,208	4	0	0	354,185	100

3.10 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Households and Average Household Size By Sex of the Head of Household and District, 2002/03 Agricultural Year

District	Male			Female			Total		Average Household Size
	Number	%	Average Household Size	Number	%	Average Household Size	Number	%	
Kibondo	41,564	81	5	9,844	19	4	51,407	100	5
Kasulu	70,754	89	6	8,642	11	4	79,396	100	5
Kigoma Rur	53,177	85	6	9,293	15	5	62,470	100	6
Kigoma Urb	1,829	73	6	663	27	5	2,492	100	6
Total	167,324	85	6	28,442	15	4	195,765	100	5

3.11 HOUSEHOLD DEMOGRAPHYS: Number of Agricultural Households By Number of Household Members with Off-farm Income Generating Activities and District, 2002/03 Agricultural Year

District	Number of household members with Off farm income							
	One		Two		More than Two		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Kibondo	27,442	77	6,659	19	1,755	5	35,856	100
Kasulu	32,333	71	9,566	21	3,502	8	45,401	100
Kigoma Rural	32,830	70	9,851	21	4,021	9	46,702	100
Kigoma Urban	797	41	599	30	569	29	1,965	100
Total	93,401	71.9	26,675	20.5	9,848	7.6	129,924	100

3.12 HOUSEHOLDS DEMOGRAPHYS: Number of Heads of Agricultural Households By Maximum Education Level Attained and District, 2002/03 Agricultural Year

District	Maximum Education Level Attained							Total
	No Education	Primary Education	Post Primary Education	Secondary Education	Post Secondary Education	University & Equivalent Education	Adult Education	
Kibondo	15,494	34,126	0	650	0	0	1,138	51,407
Kasulu	22,958	52,334	194	1,175	0	0	2,735	79,396
Kigoma Rur	20,189	37,151	0	774	770	0	3,587	62,470
Kigoma Urb	667	1,560	0	67	34	0	164	2,492
Total	59,307	125,170	194	2,665	804	0	7,624	195,765

3.13 HOUSEHOLDS DEMOGRAPHYS: Mean, Median, Mode of Age of Head of Agricultural Household and District

District	Male			Female			Total		
	Mean	Median	Mode	Mean	Median	Mode	Mean	Median	Mode
Kibondo	42	39	35	47	48	50	43	41	50
Kasulu	43	40	40	50	52	60	44	40	40
Kigoma Rur	43	41	45	49	50	45	44	42	45
Kigoma Urb	46	43	70	47	45	45	46	45	45
Total	43	40	40	49	50	60	44	41	40

3.14 Time Series of Male and Female Headed Households

Type of Holding	NSCA 1994/95	EAS 1995/96	EAS 1996/97	IAS 1997/98	DIAS 1998/99	NSCA 2002/03
Male Heads	119	141	143	145	149	167
Female Heads	19	18	22	27	20	28
Total	138	159	165	172	169	195
Male headed (Percentage)	86	89	87	84	88	85
Female headed (Percentage)	14	11	13	16	12	15
Total	100	100	100	100	100	100

3.15 Literacy Rate of Heads of Households by Sex and District

District	Literacy								
	Know			Don't know			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Kibondo	77,337	67,865	145,202	29,987	44,022	74,010	107,324	111,887	219,212
Kasulu	136,609	122,743	259,352	48,074	68,403	116,477	184,683	191,146	375,828
Kigoma Rural	108,789	95,040	203,829	46,425	64,043	110,468	155,214	159,083	314,297
Kigoma Urban	4,302	3,985	8,287	1,917	2,447	4,364	6,219	6,431	12,650
Total	327,037	289,632	616,670	126,403	178,915	305,318	453,441	468,547	921,988

LAND ACCESS/OWNERSHIP

4.1 LAND ACCESS/OWNERSHIP: Number of Farming Households by Type of Land Ownership/Tenure and District for the 2002/03 Agricultural Year

District	Land Access														Total Number of Households
	Leased/Certificate of Ownership		Owned under Customary Law		Bought		Rented		Borrowed		Households with Area Shared Cropped		under Other Forms of Tenure		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Kibondo	789	1	49,116	73	11,805	18	1,047	2	3,197	5	216	0	927	1	67,097
Kasulu	1,973	2	73,718	62	28,206	24	982	1	10,404	9	197	0	4,323	4	119,804
Kigoma Rur	1,667	2	49,239	54	23,192	25	2,444	3	12,792	14	294	0	2,294	2	91,921
Kigoma Urb	1,649	37	1,355	30	562	12	32	1	739	16	0	0	163	4	4,501
Total	6,079	2	173,429	61	63,765	23	4,505	2	27,132	10	708	0	7,706	3	283,323

4.2 LAND ACCESS/OWNERSHIP: Area of Land (ha) by Ownership/Tenure (Hectare) and District for the 2002/03 Agricultural Year

District	Land Access/ Ownership (Hectare)								Total
	Area Leased/Certificate of Ownership	Area Owned Under Customary Law	Area Bought	Area Rented	Area Borrowed	Area Shared Cropped	Area under Other Forms of Tenure		
Kibondo	1,061	63,842	8,433	479	1,079	87	335	75,316	
Kasulu	2,596	123,555	22,523	299	3,817	20	3,511	156,322	
Kigoma Rur	3,157	84,429	40,351	2,145	7,631	659	1,160	139,533	
Kigoma Urb	780	833	432	13	237	.	72	2,367	
Total	7,595	272,660	71,739	2,936	12,764	766	5,078	373,538	
%	2.0	73.0	19.2	0.8	3.4	0.2	1.4	100.0	

LAND USE

5.1 LAND USE: Number of Agricultural Households By Type of Land Use and District for the 2002/03 Agricultural Year

Districts	Type of Land Use													Area of land Utilized by household	Total Number of Households
	Households with Temporary Mono Crops	Households with Temporary Mixed Crops	Households with Permanent Mono Crops	Households with Permanent Mixed Crops	Households with Permanent / Annual Mix	Households with Pasture	Households with Fallow	Households with Natural Bush	Households with Planted Trees	Households Rented to Others	Households with area Unusable	Households of Uncultivated Usable Land			
Kibondo	40,569	29,586	21,954	2,652	12,122	395	7,568	266	3,449	919	229	8,909	6,145	75,316	
Kasulu	60,806	41,984	52,769	9,428	41,587	392	20,235	591	4,721	781	2,355	24,585	29,083	156,362	
Kigoma Rur	27,375	31,309	47,010	7,651	27,818	478	3,576	314	3,450	1,249	474	31,149	44,889	139,533	
Kigoma Urb	834	1,847	928	337	1,056	0	429	0	32	0	34	98	27	2,367	
Total	129,585	104,727	122,661	20,066	82,585	1,264	31,808	1,171	11,652	2,949	3,092	64,740	80,144	373,578	

5.2 LAND USE: Area of Land (Ha) by type of Land Use and District for the 2002/03 Agricultural Year

District	Land use area													Total
	Area under Temporary Mono Crops	Area under Temporary Mixed Crops	Area under Permanent Mono Crops	Area under Permanent Mixed Crops	Area under Permanent / Annual Mix	Area under Pasture	Area under Fallow	Area under Natural Bush	Area under Planted Trees	Area Rented to Others	Area Unusable	Area of Uncultivated Usable Land		
Kibondo	30,575	16,714	8,447	1,108	5,535	108	4,690	376	850	589	178	8,909	78,079	
Kasulu	35,573	22,636	20,891	3,587	24,848	60	16,751	140	965	790	1,038	24,585	151,863	
Kigoma Rur	15,711	18,536	30,171	5,032	19,191	401	3,343	127	926	697	508	31,149	125,793	
Kigoma Urb	230	719	527	138	499	0	210	0	3	0	14	98	2,438	
Total	82,089	58,605	60,037	9,865	50,073	569	24,995	643	2,744	2,076	1,738	64,740	358,173	
%	22.9	16.4	16.8	2.8	14.0	0.2	7.0	0.2	0.8	0.6	0.5	18.1	100.0	

5.3 LAND USE: Number of Agricultural Households by Whether All Land Available to the Household Was Used and District, 2002/03 Agricultural Year

District	Was all Land Available to the Hh Used During 2002/03?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Kibondo	30,912	60	20,229	40	51,141	100
Kasulu	36,695	46	42,701	54	79,396	100
Kigoma Rur	28,110	46	33,590	54	61,700	100
Kigoma Urb	1,963	80	495	20	2,458	100
Total	97,680	50	97,015	50	194,695	100

5.4 LAND USE: Number of Agricultural Households by Whether they Consider Having Sufficient Land for the Household and District, 2002/03 Agricultural Year

District	Do you Consider that you have sufficient land for the Hh?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Kibondo	23,185	45	27,956	55	51,141	100
Kasulu	33,108	42	46,288	58	79,396	100
Kigoma Rur	39,514	64	22,186	36	61,700	100
Kigoma Urb	954	39	1,504	61	2,458	100
Total	96,761	50	97,934	50	194,695	100

5.5 LAND USE: Number of Agricultural Households by whether Female Members of the Household Own or Have Customary Right to Land and District, 2002/03 Agricultural Year

District	Do any Female Members of the Hh own or have customary right					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Kibondo	7,319	14	43,822	86	51,141	100
Kasulu	17,353	22	62,043	78	79,396	100
Kigoma Rur	19,341	31	42,359	69	61,700	100
Kigoma Urb	626	25	1,832	75	2,458	100
Total	44,639	23	150,056	77	194,695	100

**TOTAL ANNUAL CROP & VEGETABLES PRODUCTION
LONG & SHORT SEASONS**

7.1 & 7.2a TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted (ha) by Season and District.

District	Short Season		Long Season		Total Area Planted (Hectare)	% Area planted in Short Season
	Number of household	Planted area (hectare)	Number of household	Planted Area (hectare)		
Kibondo	122070	46202	42429	13542	59744	77.3
Kasulu	187674	65520	127745	53565	119085	55.0
Kigoma Rur	94596	32417	114478	50890	83307	38.9
Kigoma Urb	3,928	1,004	4,130	1,688	2,692	37.3
Total	408,268	145,143	288,782	119,685	264,828	54.8

7.1 & 7.2b TOTAL ANNUAL CROPS AND VEGETABLE PRODUCTION: Number of Crop Growing Households Planting Crops by Season and District.

District	Short Season		Long Season		Total Number of Crop Growing Households
	Number of households Growing Crops	Number of households NOT Growing Crops	Number of households Growing Crops	Number of households NOT Growing Crops	
Kibondo	51141	266	17622	33,785	68,763
Kasulu	78610	786	58697	20,699	137,308
Kigoma Rur	52080	10,390	41314	21,156	93,394
Kigoma Urb	1931	560	1320	1,172	3,251
Total	183763	12,002	118953	76,812	302,716

7.1 & 7.2h TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Long & Short Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	6,239	4,618	74,996	55,127	81,235	59,744	92.3
Kasulu	3,118	2,885	148,268	116,200	151,386	119,085	97.6
Kigoma Rur	7,519	5,415	101,709	77,892	109,227	83,307	93.5
Kigoma Urb	232	174	3,653	2,518	3,885	2,692	93.5
Total	17,108	13,092	328,626	251,736	345,733	264,828	95.1

7.1 & 7.2i TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - Long & Short Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	1,383	1,786	79,852	57,958	81,235	59,744	3.0
Kasulu	1,952	1,241	149,434	117,844	151,386	119,085	1.0
Kigoma Rur	466	362	108,761	82,946	109,227	83,307	0.4
Kigoma Urb	135	103	3,750	2,589	3,885	2,692	3.8
Total	3,936	3,492	341,797	261,336	345,733	264,828	1.3
%	1.5	1.3	129.1	98.7	130.6	100.0	

7.1 & 7.2d TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Agriculture Households by Area Planted (ha) and crop for the Agriculture Year 2002/03 - Long and Short rains, Kigoma Region

Crop	Short rainy Season.		Long rainy Season		Total Area Planted Short & Long rainy Season	% Area Planted in Short rain
	Number of Households	Planted area (ha)	Number of Households	Planted area (ha)		
CEREALS	196,893	86,420	26,260	7,862	94,282	92
Maize	168,082	77,797	19,560	6,099	83,896	93
Paddy	11,298	4,235	2,510	620	4,855	87
Sorghum	11,935	3,260	4,190	1,144	4,404	74
Bulrush Millet	132	53	0	0	53	100
Finger Millet	5,446	1,074	0	0	1,074	100
ROOTS & TUBERS	0	0	0	0	0	0
Cassava	1,043	178	136,900	75,497	75,675	0
Sweet Potatoes	8,100	1,193	4,928	1,046	2,238	53
Irish Potatoes	573	49	193	39	88	56
PULSES	157,554	46,953	100,366	30,783	77,736	60
Mung Beans	0	0	0	0	0	0
Beans	156,692	46,723	100,196	30,764	77,486	60
Cowpeas	669	214	103	10	224	96
Green Gram	0	0	0	0	0	0
Chich Peas	0	0	0	0	0	0
Bambaranuts	193	16	67	10	26	62
OIL SEEDS & OIL NUTS	31,406	7,944	14,271	3,259	11,202	71
Sunflower	330	37	0	0	37	100
Simsim	197	140	263	53	193	72
Groundnuts	30,879	7,767	14,008	3,205	10,972	71
Soya Beans	0	0	0	0	0	0
FRUITS & VEGETABLES	6,588	811	4,944	1,073	1,884	43
Okra	0	0	123	25	25	0
Radish	0	0	0	0	0	0
Turmeric	0	0	0	0	0	0
Onions	1,384	179	657	58	238	75
Cabbage	1,010	122	750	115	237	52
Tomatoes	2,956	384	2,836	396	780	49
Spinnach	34	3	132	5	9	39
Carrot	133	8	0	0	8	100
Chillies	34	4	34	3	7	54
Amaranths	1,037	109	412	470	579	19
Total		811		0	811	100

7.1 & 7.2c TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Area planted (ha) and Quantity Harvested by Season and Crop for the 2002/03 agriculture year, Kigoma Region

Crop	Short Season			Long Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Maize	77,797	98,592	1,267	6,099	7,583	1,243	83,896	106,175	2,511
Paddy	4,235	6,820	1,610	620	1,040	1,679	4,855	7,860	3,289
Sorghum	3,260	2,890	886	1,144	1,640	1,434	4,404	4,530	2,320
Bulrush Millet	53	71	1,334	0	0	0	53	71	1,334
Finger Millet	1,074	762	709	0	0	0	1,074	762	709
CEREALS	86,420	109,134	5,807	7,862	10,263	4,356	94,282	119,397	10,163
Cassava	178	165	930	75,497	129,549	1,716	75,675	129,715	2,646
Sweet Potatoes	1,193	3,103	2,602	1,046	2,209	2,113	2,238	5,312	4,715
Irish Potatoes	49	90	1,843	39	270	6,916	88	360	8,759
ROOTS & TUBERS	1,419	3,358	5,375	76,582	132,029	10,745	78,001	135,387	16,120
Mung Beans	0	0	0	0	0	0	0	0	0
Beans	46,723	24,588	526	30,764	15,716	511	77,486	40,304	1,037
Cowpeas	214	121	564	10	7	731	224	128	1,295
Green Gram	0	0	0	0	0	0	0	0	0
Chich Peas	0	0	0	0	0	0	0	0	0
Bambaranuts	16	13	810	10	6	625	26	19	1,435
PULSES	46,953	24,722	1,900	30,783	15,730	1,866	77,736	40,451	3,767
Sunflower	37	19	497	0	0	0	37	19	497
Simsim	140	163	1,164	53	41	766	193	203	1,930
Groundnuts	7,767	5,615	723	3,205	2,739	854	10,972	8,353	1,577
Soya Beans	0	0	0	0	0	0	0	0	0
OIL SEEDS & OIL NUTS	7,944	5,796	2,384	3,259	2,779	1,620	11,202	8,575	4,004
Okra	0	0	0	25	13	534	25	13	534
Radish	0	0	0	0	0	0	0	0	0
Turmeric	0	0	0	0	0	0	0	0	0
Onions	179	372	2,076	58	136	2,333	238	509	4,409
Cabbage	122	449	3,666	115	807	7,028	237	1,256	10,694
Tomatoes	384	1,285	3,343	396	1,923	4,861	780	3,209	8,204
Spinnach	3	15	4,446	5	7	1,235	9	22	5,681
Carrot	8	16	1,976	0	0	0	8	16	1,976
Chillies	4	29	7,240	3	16	4,742	7	46	11,982
Amaranths	109	372	3,410	470	16	34	579	388	3,444
FRUITS & VEGETABLES	811	2,539	26,156	1,073	2,919	20,767	1,884	5,458	46,924
Total	143,547			119,559			263,106		

*The total area planted include the sum of the planted area for both Wet and Short Season and it is an overestimation of the actual area due to being produced on the same land during the two seasons. Previous surveys have used the Long/Long Season to esti

7.1 & 7.2e TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) By Means of Soil Preparation and District Long & Short Season, Kigoma

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	397	80	923	499	67,443	50,757	68,763	51,335
Kasulu	783	415	4,112	3,060	132,412	82,402	137,308	85,876
Kigoma Rur	463	146	634	805	92,298	49,223	93,394	50,174
Kigoma Urb	103	473	815	605	2,334	1,174	3,251	2,251
Total	1,746	1,113	6,484	4,969	294,486	183,555	302,716	189,637
%		0.6		2.6		96.8		100.0

7.1 & 7.2f TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fertilizer Use and District for the 2002/03 Agriculture Year - Long & Short Season, Mwanza

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
Kibondo	11,358	11,038	1,453	891	1,508	1,210	66,916	46,604	81,235	59,744
Kasulu	15,501	13,533	5,500	5,498	1,365	1,348	129,020	98,705	151,386	119,085
Kigoma Rur	6,340	6,430	1,885	1,144	4,363	3,193	96,640	72,540	109,227	83,307
Kigoma Urb	735	802	100	23	197	161	2,852	1,706	3,885	2,692
Total	33,934	31,803	8,938	7,557	7,433	5,913	295,428	219,555	345,733	264,828

7.1 & 7.2g TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Irrigation Use and District during Long Season, 2002/03 Agriculture Year

District	Irrigation Use						% of Area Planted Under Irrigation
	Households Using Irrigation		Households not Using Irrigation		Total		
	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	
Kibondo	21,330	10,937	8,764	2,605	30,094	13,542	80.8
Kasulu	59,056	46,982	13,720	6,583	72,776	53,565	87.7
Kigoma Rur	45,475	42,766	11,672	8,124	57,147	50,890	84.0
Kigoma Urb	1,257	1,381	696	307	1,953	1,688	81.8
Total	127,118	102,067	34,852	17,618	161,970	119,685	85.3

7.1 & 7.2j TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicides Use and District for the 2002/03 Agriculture Year - Long & Short Season.

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	2,288	1,402	78,947	58,342	81,235	59,744	2.3
Kasulu	1,550	1,415	149,836	117,670	151,386	119,085	1.2
Kigoma Rur	3,611	2,263	105,616	81,044	109,227	83,307	2.7
Kigoma Urb	198	154	3,687	2,538	3,885	2,692	5.7
Total	7,647	5,234	338,086	259,594	345,733	264,828	2.0

7.1 & 7.2k TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Improved Seed Use and District for the 2002/03 Agriculture Year - Long & Short Season.

District	Improved Seed Use						% of Planted Area Using Improved Seeds
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	2,001	1,164	66,762	50,172	68,763	51,335	2.3
Kasulu	6,802	6,612	130,506	79,264	137,308	85,876	7.7
Kigoma Rur	4,329	2,739	89,065	47,435	93,394	50,174	5.5
Kigoma Urb	829	1,017	2,422	1,235	3,251	2,251	45.2
Total	13,960	11,531	288,756	178,106	302,716	189,637	6.1

ANNUAL CROP & VEGETABLES PRODUCTION
Short SEASON

7.1a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - Short SEASON, Kigoma Region.

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	0	0	791	485	50,350	45,717	51,141	46,202
Kasulu	194	236	1,568	1,756	76,848	63,528	78,610	65,520
Kigoma Rur	0	0	313	675	51,767	31,741	52,080	32,417
Kigoma Urb	34	7	372	263	1,525	734	1,931	1,004
Total	229	243	3,045	3,180	180,490	141,721	183,763	145,143
%	0.1	0.2	1.7	2.2	98.2	97.6	100.0	100.0

7.1b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - Short SEASON, Kigoma Region

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	9,176	9,933	1,058	779	888	1,085	40,019	34,404	51,141	46,202
Kasulu	14,122	12,506	4,515	4,866	975	755	58,998	47,393	78,610	65,520
Kigoma Rur	5,099	5,335	1,258	615	1,876	1,045	43,848	25,422	52,080	32,417
Kigoma Urb	431	208	69	10	67	84	1,365	702	1,931	1,004
Total	28,829	27,982	6,899	6,271	3,806	2,969	144,229	107,921	183,763	145,143
%	15.7	19.3	3.8	4.3	2.1	2.0	78.5	74.4	100.0	100.0

7.1c ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during Short Season, 2002/03 Agriculture Year, Kigoma Region

District	Irrigation Use						% of planted area under irrigation in Short season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	934	755	50,207	45,448	51,141	46,202	1.6
Kasulu	2,715	3,590	75,896	61,930	78,610	65,520	5.5
Kigoma Rur	2,195	1,044	49,886	31,373	52,080	32,417	3.2
Kigoma Urb	238	143	1,693	861	1,931	1,004	14.3
Total	6081.299849	5531.75	177681.7799	139611.5	183763.0797	145143.2413	3.811235855
%	3.30931537	3.8112	96.690685	96.1888	100	100	3.811235855

7.1d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Short Season.

	Insecticide Use						% of Planted Area Using Insecticides
	Household Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	3,672	3,447	47,469	42,756	51,141	46,202	7.5
Kasulu	1,364	1,575	77,247	63,945	78,610	65,520	2.4
Kigoma Rur	2,687	1,195	49,394	31,222	52,080	32,417	3.7
Kigoma Urb	133	110	1,798	894	1,931	1,004	11.0
Total	7,856	6,326	175,907	138,817	183,763	145,143	4.4

7.1e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicides Use and District for the 2002/03 Agriculture Year - Short Season.

	Herbicide Use						% of Planted Area Using Herbicides
	Household Using Herbicides		Households Not Using Herbicides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	817	1,601	50,324	44,601	51,141	46,202	3.5
Kasulu	587	274	78,024	65,245	78,610	65,520	0.4
Kigoma Rur	160	65	51,921	32,352	52,080	32,417	0.2
Kigoma Urb	101	65	1,831	940	1,931	1,004	6.5
Total	1,665	2,005	182,098	143,138	183,763	145,143	1.4

7.1f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - Short Season.

	Fungicide Use						% of Planted Area Using Fungicides
	Household Using Fungicides		Households Not Using Fungicides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	715	636	50,426	45,567	51,141	46,202	1.4
Kasulu	580	586	78,031	64,933	78,610	65,520	0.9
Kigoma Rur	1,263	502	50,818	31,915	52,080	32,417	1.5
Kigoma Urb	99	90	1,833	914	1,931	1,004	9.0
Total	2,656	1,814	181,107	143,329	183,763	145,143	1.2

7.1g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - Short SEASON

District	Improved Seed Use						% of Planted Area Using Improved Seed
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	
Kibondo	1,116	1,000	50,026	45,202	51,141	46,202	2.4
Kasulu	5,441	6,082	73,169	59,438	78,610	65,520	8.3
Kigoma Rur	2,630	1,793	49,450	30,624	52,080	32,417	8.1
Kigoma Urb	402	249	1,529	756	1,931	1,004	40.0
Total	9,589	9,123	174,174	136,020	183,763	145,143	6.6
%	5.2	6.3	94.8	93.7	100.0	100.0	

**ANNUAL CROP & VEGETABLES PRODUCTION
LONG SEASON**

7.2d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Long Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	2,566	1,171	27,528	12,371	30,094	13,542	8.6
Kasulu	1,755	1,310	71,021	52,255	72,776	53,565	2.4
Kigoma Rur	4,832	4,220	52,315	46,670	57,147	50,890	8.3
Kigoma Urb	99	64	1,855	1,623	1,953	1,688	3.8
Total	9,252	6,765	152,719	112,919	161,970	119,685	5.7

7.2e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - Long Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	566	185	29,528	13,357	30,094	13,542	1.4
Kasulu	1,365	967	71,411	52,598	72,776	53,565	1.8
Kigoma Rur	307	297	56,840	50,594	57,147	50,890	0.6
Kigoma Urb	34	38	1,919	1,649	1,953	1,688	2.3
Total	2,272	1,487	159,698	118,198	161,970	119,685	1.2
%	1.4	1.2	98.6	98.8	100.0	100.0	

7.2a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - Long SEASON, Mwanza Region.

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	397	80	132	13	17,093	5,040	17,622	5,133
Kasulu	589	179	2,544	1,304	55,564	18,874	58,697	20,357
Kigoma Rur	463	146	320	130	40,531	17,482	41,314	17,758
Kigoma Urb	69	466	442	342	809	439	1,320	1,247
Total	1,517	870	3,439	1,789	113,997	41,835	118,953	44,494
%	1.3	2.0	2.9	4.0	95.8	94.0	100.0	100.0

7.2b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - Long SEASON, Mwanza Region

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kibondo	2,182	1,105	395	112	620	125	26,897	12,200	30,094	13,542
Kasulu	1,378	1,027	985	633	390	593	70,023	51,312	72,776	53,565
Kigoma Rur	1,241	1,096	627	529	2,487	2,148	52,792	47,118	57,147	50,890
Kigoma Urb	304	594	32	13	131	77	1,487	1,004	1,953	1,688
Total	5,105	3,821	2,039	1,286	3,628	2,944	151,198	111,634	161,970	119,685

7.2c ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during Long Season, 2002/03 Agriculture Year, Mwanza Region

District	Irrigation Use						% of planted area under irrigation in short season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	21,330	10,937	8,764	2,605	30,094	13,542	80.8
Kasulu	59,056	46,982	13,720	6,583	72,776	53,565	87.7
Kigoma Rur	45,475	42,766	11,672	8,124	57,147	50,890	84.0
Kigoma Urb	1,257	1,381	696	307	1,953	1,688	81.8
Total	127,118	102,067	34,852	17,618	161,970	119,685	85.3
%	78.5	85.3	21.5	14.7	100.0	100.0	

7.2f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - Long SEASON

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kibondo	1,573	767	28,520	12,775	30,094	13,542	5.7
Kasulu	970	828	71,806	52,737	72,776	53,565	1.5
Kigoma Rur	2,349	1,761	54,798	49,129	57,147	50,890	3.5
Kigoma Urb	99	64	1,855	1,623	1,953	1,688	3.8
Total	4,991	3,420	156,979	116,265	161,970	119,685	2.9

7.2g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - Long SEASON

District	Improved Seed Use						% of planted area under Improved Seed use in Long season
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	
Kibondo	885	163	16,737	4,969	17,622	5,133	3.2
Kasulu	1,361	530	57,337	19,826	58,697	20,357	2.6
Kigoma Rur	1,698	946	39,616	16,811	41,314	17,758	5.3
Kigoma Urb	427	768	893	479	1,320	1,247	61.6
Total	4,371	2,408	114,582	42,086	118,953	44,494	5.4
%	4	5	96	95	100	100	

7.2h ANNUAL CROP AND VEGETABLE PRODUCTION: Planted Area and Number of Crop Growing Households During Long Season by Method of Land Clearing and Crops; 2002/03 Agriculture Year

Crop	Land Clearing											
	Mostly Bush Clearance		Mostly Hand Slashing		Mostly Tractor Slashing		Mostly Burning		Not cleared		Total	
	Number of House holds	Planted Area	Number of House holds	Planted Area	Number of House holds	Planted Area	Number of House holds	Planted Area	Number of House holds	Planted Area	Number of House holds	Planted Area
CEREALS		547		47,862		65		828		4,976		54,278
Maize	162	66	17,009	11,937	196	57	0	0	3,379	827	20,746	12,886
Paddy	616	282	44,140	31,164	83	8	905	828	1,539	897	47,283	33,180
Sorghum	104	42	4,065	2,237	0	0	0	0	6,594	3,021	10,764	5,300
Bulrush Millet	235	157	1,692	1,616	0	0	0	0	334	122	2,261	1,895
Finger Millet	0	0	1,416	908	0	0	0	0	90	109	1,506	1,017
ROOTS & TUBERS		263		10,764		0		43		452		11,522
Cassava	0	0	636	201	0	0	0	0	85	11	721	212
Sweet Potatoes	651	196	40,255	10,547	0	0	214	43	1,816	440	42,936	11,227
Irish Potatoes	166	67	167	15	0	0	0	0	0	0	333	83
PULSES		297		25,125		0		2,359		4,576		32,357
Mung Beans	0	0	0	0	0	0	0	0	0	0	0	0
Beans	137	55	6,099	1,433	0	0	0	0	699	190	6,935	1,679
Cowpeas	0	0	2,526	435	0	0	0	0	368	31	2,894	467
Green Gram	0	0	1,146	285	0	0	0	0	0	0	1,146	285
Chich Peas	0	0	14,338	22,812	0	0	201	2,359	2,802	4,325	17,341	29,496
Bambaranuts	194	242	879	160	0	0	0	0	308	30	1,381	431
OIL SEEDS & OIL NUTS		0		580		0		28		17		625
Sunflower	0	0	0	0	0	0	0	0	0	0	0	0
Simsim	0	0	289	58	0	0	0	0	0	0	289	58
Groundnuts	0	0	1,220	521	0	0	88	28	139	17	1,446	566
Soya Beans	0	0	0	0	0	0	0	0	0	0	0	0
FRUITS & VEGETABLES		36		1,087		0		0		186		1,309
Okra	0	0	0	0	0	0	0	0	0	0	0	0
Radish	0	0	169	10	0	0	0	0	0	0	169	10
Turmeric	0	0	0	0	0	0	0	0	0	0	0	0
Onions	90	18	567	92	0	0	0	0	0	0	656	110
Cabbage	0	0	965	108	0	0	0	0	160	20	1,125	127
Tomatoes	90	18	4,598	711	0	0	0	0	637	125	5,325	855
Spinnach	0	0	471	33	0	0	0	0	51	10	522	44
Carrot	0	0	302	55	0	0	0	0	0	0	302	55
Chillies	0	0	476	28	0	0	0	0	54	8	531	35
Amaranths	0	0	406	50	0	0	0	0	153	23	559	73
Total		1,144		85,417		65		3,259		10,206		100,091
%		1.1		85.3		0.1		3.3		10.2		100

7.2.1 Number of Agricultural Households, Area Planted (ha) and Quantity of Maize Harvested (tons) by Season and District;2002/03 Agricultural Year

Maize											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	50,747	27,048	32,160	1.189	571	147	76	0.5206	27,195	32,237	1.1854
Kasulu	77,827	35,988	46,936	1.304	2,958	971	649	0.6686	36,958	47,585	1.2875
Kigoma Rural	37,815	14,290	19,049	1.333	15,175	4,693	6,651	1.4172	18,983	25,700	1.3539
Kigoma Urban	1,693	471	447	0.948	857	288	206	0.7157	760	653	0.8596
Total	168,082	77,797	98,592	1.267	19,560	6,099	7,583	1.2433	83,896	106,175	1.2656

7.2.2 Number of Agricultural Households, Area Planted (ha) and Quantity of Burlush millet Harvested (tons) by Season and District;2002/03 Agricultural Year

Burlush millet											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	132	53	71	1.3	0	0	0		53	71	1.3
Kasulu	0	0	0	0.0	0	0	0		0	0	0.0
Kigoma Rural	0	0	0	0.0	0	0	0		0	0	0.0
Kigoma Urban	0	0	0	0.0	0	0	0		0	0	0.0
Total	132	53	71	1.3	0	0	0		53	71	1.3

7.2.3 Number of Agricultural Households, Area Planted (ha) and Quantity of Paddy Harvested (tons) by Season and District;2002/03 Agricultural Year

Paddy											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	1,989	618	423	0.685	1,328	336	689	2.050	954	1,112	1.166
Kasulu	8,067	1,931	4,301	2.228	197	28	35	1.270	1,959	4,337	2.214
Kigoma Rural	1,242	1,687	2,095	1.242	759	173	249	1.441	1,859	2,344	1.261
Kigoma Urban	0	0	0	0.000	226	83	68	0.812	83	68	0.812
Total	11,298	4,235	6,820	1.610	2,510	620	1,040	1.679	4,855	7,860	1.619

7.2.4 Number of Agricultural Households, Area Planted (ha) and Quantity of Sorghum Harvested (tons) by Season and District;2002/03 Agricultural Year

Sorghum											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	6,863	2,069	1,696	0.820	2,617	806	1,171	1.453	2,875	2,866	0.997
Kasulu	4,923	1,161	1,164	1.003	1,573	338	469	1.389	1,499	1,634	1.090
Kigoma Rural	149	30	30	0.988	0	0	0	0.000	30	30	0.988
Kigoma Urban	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	11,935	3,260	2,890	0.886	4,190	1,144	1,640	1.434	4,404	4,530	1.029

7.2.5 Number of Agricultural Households, Area Planted (ha) and Quantity of Finger millet Harvested (tons) by Season and District;2002/03 Agricultural Year

Finger millet											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	3,473	715	426	0.596	0	0	0		715	426	0.596
Kasulu	1,973	360	335	0.933	0	0	0		360	335	0.933
Kigoma Rural	0	0	0	0.000	0	0	0		0	0	0.000
Kigoma Urban	0	0	0	0.000	0	0	0		0	0	0.000
Total	5,446	1,074	762	0.709	0	0	0		1,074	762	0.709

7.2.6 Number of Agricultural Households, Area Planted (ha) and Quantity of Beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Beans											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	42,787	12,073	6,355	0.526	9,395	2,221	1,024	0.461	14,293	7,379	0.516
Kasulu	70,214	21,852	11,214	0.513	53,184	17,499	8,418	0.481	39,351	19,632	0.499
Kigoma Rural	42,100	12,399	6,865	0.554	36,863	10,814	6,183	0.572	23,214	13,048	0.562
Kigoma Urban	1,591	399	154	0.387	754	230	90	0.393	628	245	0.389
Total	156,692	46,723	24,588	0.526	100,196	30,764	15,716	0.511	77,486	40,304	0.520

7.2.7 Number of Agricultural Households, Area Planted (ha) and Quantity of Green gram Harvested (tons) by Season and District;2002/03 Agricultural Year

Green gram											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0	0	0	0	0	0	0	0	0
Kasulu	0	0	0	0	0	0	0	0	0	0	0
Kigoma Rural	0	0	0	0	0	0	0	0	0	0	0
Kigoma Urban	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

7.2.8 Number of Agricultural Households, Area Planted (ha) and Quantity of Mung beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Mung beans											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0	0	0	0	0	0	0	0	0
Kasulu	0	0	0	0	0	0	0	0	0	0	0
Kigoma Rural	0	0	0	0	0	0	0	0	0	0	0
Kigoma Urban	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

7.2.9 Number of Agricultural Households, Area Planted (ha) and Quantity of Cowpeas Harvested (tons) by Season and District;2002/03 Agricultural Year

Cowpeas											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kasulu	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kigoma Rural	635	206	119	0.576	0	0	0	0.000	206	119	0.576
Kigoma Urban	34	8	2	0.265	103	10	7	0.000	18	9	0.525
Total	669	214	121	0.564	103	10	7	0.731	224	128	0.572

7.2.10 Number of Agricultural Households, Area Planted (ha) and Quantity of Bambaranuts Harvested (tons) by Season and District;2002/03 Agricultural Year

Bambaranuts											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0		0	0	0		0	0	0.000
Kasulu	0	0	0		0	0	0		0	0	0.000
Kigoma Rural	160	13	11		0	0	0		13	11	0.865
Kigoma Urban	32	3	2		67	10	6		13	8	0.617
Total	193	16	13		67	10	6		26	19	0.739

7.2.11 Number of Agricultural Households, Area Planted (ha) and Quantity of Chick peas Harvested (tons) by Season and District;2002/03 Agricultural Year

Chick peas											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0	0.000	0	0	0		0	0	0
Kasulu	0	0	0	0.000	0	0	0		0	0	0
Kigoma Rural	0	0	0	0.000	0	0	0		0	0	0
Kigoma Urban	0	0	0	0.000	0	0	0		0	0	0
Total	0	0	0	0.000	0	0	0		0	0	0

7.2.12 Number of Agricultural Households, Area Planted (ha) and Quantity of Cassava Harvested (tons) by Season and District;2002/03 Agricultural Year

Cassava											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	133	27	9	0.336	21,468	8,476	8,977	1.06	8,503	8,986	1.057
Kasulu	589	105	111	1.058	62,581	33,447	57,355	1.71	33,553	57,467	1.713
Kigoma Rural	320	45	45	0.988	51,560	33,133	61,810	1.87	33,178	61,855	1.864
Kigoma Urban	0	0	0	0.000	1,291	441	1,407	3.19	441	1,407	3.194
Total	1,043	178	165	0.930	136,900	75,497	129,549	1.72	75,675	129,715	1.714

7.2.13 Number of Agricultural Households, Area Planted (ha) and Quantity of Sweet potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Sweet potatoes											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	531	105	54	0.513	133	27	19	0.692	132	72	0.550
Kasulu	5,872	637	1,581	2.483	589	60	160	2.678	696	1,741	2.500
Kigoma Rural	1,561	412	1,417	3.440	3,677	798	1,937	2.427	1,210	3,353	2.772
Kigoma Urban	135	39	51	1.309	529	161	95	0.587	200	146	0.728
Total	8,100	1,193	3,103	2.602	4,928	1,046	2,209	2.113	2,238	5,312	2.374

7.2.14 Number of Agricultural Households, Area Planted (ha) and Quantity of Irish potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Irish potatoes											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kasulu	573	49	90	1.843	193	39	270	6.916	88	360	4.100
Kigoma Rural	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kigoma Urban	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	573	49	90	1.843	193	39	270	6.916	88	360	4.100

7.2.15 Number of Agricultural Households, Area Planted (ha) and Quantity of Groundnuts Harvested (tons) by Season and District;2002/03 Agricultural Year

Groundnuts											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	10,934	2,523	1,797	0.712	4,244	1,215	846	0.696	3,738	2,643	0.707
Kasulu	11,384	2,446	1,743	0.713	5,096	1,024	1,031	1.006	3,470	2,774	0.799
Kigoma Rural	8,460	2,789	2,068	0.741	4,600	954	850	0.890	3,743	2,917	0.779
Kigoma Urban	101	9	7	0.790	69	12	13	1.063	21	20	0.946
Total	30,879	7,767	5,615	0.723	14,008	3,205	2,739	0.854	10,972	8,353	0.761

7.2.16 Number of Agricultural Households, Area Planted (ha) and Quantity of Sunflower Harvested (tons) by Season and District;2002/03 Agricultural Year

Sunflower											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	133	13	5	0	0	0	0	0.000	13	5	0.356
Kasulu	197	24	14	1	0	0	0	0.000	24	14	0.576
Kigoma Rural	0	0	0	0	0	0	0	0.000	0	0	0.000
Kigoma Urban	0	0	0	0	0	0	0	0.000	0	0	0.000
Total	330	37	19	0	0	0	0	0.000	37	19	0.497

7.2.21 Number of Agricultural Households, Area Planted (ha) and Quantity of Radish Harvested (tons) by Season and District;2002/03 Agricultural Year

Radish											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0		0	0	0		0	0	0.000
Kasulu	0	0	0		0	0	0		0	0	0.000
Kigoma Rural	0	0	0		0	0	0		0	0	0.000
Kigoma Urban	0	0	0		0	0	0		0	0	0.000
Total	0	0	0		0	0	0		0	0	0.000

7.2.22 Number of Agricultural Households, Area Planted (ha) and Quantity of Tumeric Harvested (tons) by Season and District;2002/03 Agricultural Year

Tumeric											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0		0	0	0		0	0	0
Kasulu	0	0	0		0	0	0		0	0	0
Kigoma Rural	0	0	0		0	0	0		0	0	0
Kigoma Urban	0	0	0		0	0	0		0	0	0
Total	0	0	0		0	0	0		0	0	0

7.2.23 Number of Agricultural Households, Area Planted (ha) and Quantity of Onions Harvested (tons) by Season and District;2002/03 Agricultural Year

Onions											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	664	77	98		664	77	98		154	195	
Kasulu	583	75	272		583	75	272		150	544	
Kigoma Rural	137	28	3		137	28	3		55	5	
Kigoma Urban	0	0	0		0	0	0		0	0	
Total	1,384	179	372		1,384	179	372		359	745	

7.2.24 Number of Agricultural Households, Area Planted (ha) and Quantity of Tomatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Tomatoes											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	457	58	186		1,281	135	663		193	848	
Kasulu	1,365	140	471		390	59	683		200	1,154	
Kigoma Rural	1,068	170	555		1,066	185	516		354	1,071	
Kigoma Urban	67	17	74		99	17	62		33	136	
Total	2,956	384	1,285		2,836	396	1,923		780	3,209	

7.2.25 Number of Agricultural Households, Area Planted (ha) and Quantity of Spinach Harvested (tons) by Season and District;2002/03 Agricultural Year

Spinach											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0		132	5	7		5	7	
Kasulu	0	0	0		0	0	0		0	0	
Kigoma Rural	0	0	0		0	0	0		0	0	
Kigoma Urban	34	3	15		0	0	0		3	15	
Total	34	3	15		132	5	7		9	22	

7.2.26 Number of Agricultural Households, Area Planted (ha) and Quantity of Carrot Harvested (tons) by Season and District;2002/03 Agricultural Year

Carrot											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	133	8	16		0	0	0		8	16	
Kasulu	0	0	0		0	0	0		0	0	
Kigoma Rural	0	0	0		0	0	0		0	0	
Kigoma Urban	0	0	0		0	0	0		0	0	
Total	133	8	16		0	0	0		8	16	

7.2.27 Number of Agricultural Households, Area Planted (ha) and Quantity of Chillies Harvested (tons) by Season and District;2002/03 Agricultural Year

Chillies											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	0	0	0		0	0	0		0	0	
Kasulu	0	0	0		0	0	0		0	0	
Kigoma Rural	0	0	0		0	0	0		0	0	
Kigoma Urban	34	4	29		34	3	16		7	46	
Total	34	4	29		34	3	16		7	46	

7.2.28 Number of Agricultural Households, Area Planted (ha) and Quantity of Amaranths Harvested (tons) by Season and District;2002/03 Agricultural Year

Amaranths											
District	Short Season				Long Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kibondo	361	39	42	1.090	0	0	0	0.000	39	42	1.090
Kasulu	388	28	16	0.561	197	20	8	0.395	48	23	0.491
Kigoma Rural	150	15	285	18.772	146	30	4	0.148	45	289	6.456
Kigoma Urban	137	27	29	1.066	69	421	4	0.009	448	33	0.074
Total	1,037	109	372	3.410	412	470	16	0.034	579	388	0.670

PERMANENT CROPS

7.3.1 PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Kigoma.

District/Crop	Area planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)	
Kibondo	Pigeon Pea	103	1,416	39	27
	Palm Oil	53	0	1	0
	Cashewnut	27	0	0	0
	Coffee	426	22	19	898
	Sugarcane	23	62	1,953	31,571
	Banana	7,586	2,119	20,726	9,780
	Avocado	202	55	65	1,170
	Mango	326	165	3,825	23,152
	Pawpaw	180	101	266	2,651
	Pineapple	27	27	0	0
	Orange	72	66	0	0
	Mandarine/Tangerine	26	0	1,014	0
	Guava	20	12	303	25,562
	Lime/Lemon	3	0	0	0
Total	9,073	4,044	28,210	6,976	
Kasulu	Sour Soup	27	0	0	0
	Pigeon Pea	604	638	374	587
	Palm Oil	1,105	1,953	2,003	1,026
	Coffee	401	5,112	869	170
	Sugarcane	784	361	2,171	6,012
	Banana	10,136	5,102	47,312	9,273
	Avocado	0	0	47	0
	Mango	6,936	114	6,540	57,166
	Pawpaw	0		3	0
	Pineapple	66	20	88	4,455
	Orange	294	44	762	17,500
	Mandarine/Tangerine	0	0	72	0
	Guava	16	0	122	0
	Lime/Lemon	20	8	43	5,457
Total	20,389	13,352	60,409	4,524	
Kigoma Rural	Pigeon Pea	243	197	183	930
	Palm Oil	8,747	7,438	38,066	5,118
	Coffee	265	84	424	5,022
	Sugarcane	135	63	8,597	136,698
	Mpesheni	6	0	3	0
	Banana	2,762	1,657	27,697	16,711
	Avocado	1	0		0
	Mango	86	45	734	16,356
	Pawpaw	19	6	11	1,689
	Pineapple	130	65	1,634	25,281
	Orange	543	480	4,723	9,835
	Mandarine/Tangerine	2	0	8	0
	Guava	5	0	16	0
	Total	12,945	10,036	82,097	8,180
Kigoma Urban	Pigeon Pea	5	2	9	3,923
	Palm Oil	382	182	437	2,402
	Coconut	7	7	3	494
	Banana	18	12	93	7,845
	Mango	28	22	235	10,666
	Pawpaw	1	0	38	0
	Orange	0	0	73	0
	Mandarine/Tangerine	4	0	3	0
	Lime/Lemon	0		8	0
	Total	446	225	900	3,995

7.3.2 PERMANENT CROP: Area Planted by Crop Type - Kigoma Region

Crop	Area Planted	%
Mango	7,376	25.59
Orange	909	3.15
Banana	20,502.7	71.12
Guava	40	0.14
Total	28,828	100.00

7.3.3 PERMANENT CROPS: Area Planted with Oranges by District

Orange					
District	Area Planted with Orange	Total Area Planted (Ha)	% of Total Area Planted	Households with Orange	Average Planted Area per Household
Kibondo	72	9,073	0.8	392	0.2
Kasulu	294	20,389	1.4	976	0.3
Kigoma Rural	543	12,945	4.2	764	0.7
Kigoma Urban	0	446	0.0	0	0.0
Total	909	42,853	2.1	15,446	0.1

7.3.4 PERMANENT CROPS: Area planted with Banana by District

Banana					
District	Area Planted with Banana	Total Area Planted (Ha)	% of Total Area Planted	Households with Banana	Average Planted Area per Household
Kibondo	7,586	9,073	83.6	14,334.0	0.5
Kasulu	10,136	20,389	49.7	22,132	0.5
Kigoma Rural	2,762	12,945	21.3	7,811.0	0.4
Kigoma Urban	18	446	4.0	167.0	0.1
Total	20,502	42,853	47.8	44,444	1.0

AGROPROCESSING

8.1.1a AGRO PROCESSING: Number of Crop Growing Households Reported to have Processed Products by District; 2002/03 Agriculture Year

	Households That Processed Products		Households That did not Process Products		Total	
	Number	%	Number	%	Number	%
Kibondo	50,158	98	1,249	2	51,407	100
Kasulu	71,512	90	7,884	10	79,396	100
Kigoma Rural	61,219	98	1,251	2	62,470	100
Kigoma Urban	2,359	95	133	5	2,492	100
Total	185,249	95	10,517	5	195,765	100

8.1.1b AGRO PROCESSING: Number of Crop Growing Households by Method of Processing and District; 2002/03 Agricultural Year

District	Method of Processing					Total
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Trader	Other	
Kibondo	2,623	2,409	45,043	0	0	50,075
Kasulu	2,727	3,315	50,027	15,049	395	71,512
Kigoma Rural	3,471	6,894	14,894	35,007	0	60,266
Kigoma Urban	420	0	907	1,032	0	2,359
Total	9,241	12,618	110,871	51,088	395	184,212

8.1.1c AGRO PROCESSING: Number of Crop Growing Households Processing Crops During 2002/03 Agricultural Year by Location and Crop, Kigoma Region

Crop	Method of Processing						Total
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Trader	On Large Scale Farm	Other	
Maize	11,089	9,337	247,899	12,761	152	151	281,388
Paddy	20,484	2,627	82,965	7,163	104	493	113,836
Sorghum	1,107	602	20,068	791	0	0	22,567
Bulrush Millet	1,355	0	1,362	0	0	0	2,717
Cassava	60,362	1,092	47,926	1,831	0	0	111,211
Beans	505	0	306	0	0	0	812
Cowpeas	223	0	75	0	0	0	298
Bambaranut	0	0	0	0	0	0	0
Total	95,124	13,658	400,602	22,546	256	644	532,830

8.1.1d AGRO PROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year by Use of Product and Crop, Kigoma Region

Crop	Product Use						Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	
Maize	167,941	133	165	196	133	0	168,568
Paddy	10,271	0	324	0	0	0	10,595
Sorghum	6,699	0	131	0	0	0	6,830
Finger Millet	2,494	0	0	0	133	0	2,628
Cassava	97,443	0	1,065	196	0	0	98,703
Beans	15,177	0	83	0	0	0	15,260
Pigeon Peas	132	0	0	0	0	0	132
Groundnut	4,493	197	158	0	0	0	4,848
Oil Palm	4,301	1,184	10,672	0	0	0	16,158
Tobacco	0	0	133	0	0	0	133
Coffee	0	0	2,557	0	0	0	2,557
Banana	2,023	0	3,856	0	0	0	5,879
Mango	133	0	0	0	0	0	133
Orange	0	0	160	0	0	0	160
Total	311,107	1,514	19,305	391	267	0	332,584

8.1.1e AGRO PROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year by Location of Sale of Product and Crop, Kigoma Region

Crop	Where Sold									Total
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	
Maize	4,889	6,428	0	33	266	0	274	2,368	154,309	168,568
Paddy	342	490	0	0	0	0	32	0	9,731	10,595
Sorghum	131	195	0	0	0	0	0	0	6,504	6,830
Finger Millet	0	0	0	0	0	0	0	0	2,628	2,628
Cassava	5,894	9,903	0	0	0	197	1,195	1,776	79,739	98,703
Beans	0	127	0	0	0	0	0	0	15,133	15,260
Pigeon Peas	0	0	0	0	0	0	0	0	132	132
Groundnut	133	277	0	0	0	0	158	0	4,280	4,848
Oil Palm	2,529	4,449	0	0	0	0	6,258	32	2,891	16,158
Tobacco	0	133	0	0	0	0	0	0	0	133
Coffee	481	0	0	159	1,918	0	0	0	0	2,557
Banana	3,114	197	0	0	0	0	919	197	1,451	5,879
Mango	0	0	0	0	0	0	0	0	133	133
Orange	0	0	0	0	0	0	160	0	0	160
Total	17,513	22,199	0	192	2,184	197	8,995	4,373	276,931	332,584

8.1.1f AGRO PROCESSING: Number of Crop Growing Households By Main Product and District During 2002/03 Agriculture Year, Kigoma Region

District	Main Product						Total
	Flour / Meal	Grain	Oil	Juice	Fiber	Other	
Kibondo	49,810	265	83	0	0	0	50,158
Kasulu	63,300	5,498	1,735	980	0	0	71,512
Kigoma Rural	50,521	3,328	7,371	0	0	0	61,219
Kigoma Urban	1,570	33	756	0	0	0	2,359
Total	165,201	9,124	9,944	980	0	0	185,249

8.1.1g AGRO PROCESSING: Number of Crop Growing Households By Use of Primary Processed Product and District During 2002/03 Agriculture Year, Kigoma Region

District	Product Use					Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	
Kibondo	49,892	133	0	0	133	50,158
Kasulu	70,138	0	1,374	0	0	71,512
Kigoma Rural	51,115	0	10,103	0	0	61,219
Kigoma Urban	1,640	0	719	0	0	2,359
Total	172,786	133	12,197	0	133	185,249

8.1.1h AGRO PROCESSING: Number of Crop Growing Households By Where Product Sold and District During 2002/03 Agriculture Year, Kigoma Region

District	Where Sold									
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	Total
Kibondo	483	3,233	0	0	266	0	121	0	46,056	50,158
Kasulu	3,116	2,367	0	0	0	0	394	2,565	63,070	71,512
Kigoma Rural	3,269	6,709	0	159	1,918	0	3,953	0	45,211	61,219
Kigoma Urban	297	463	0	33	0	0	359	32	1,175	2,359
Total	7,165	12,772	0	192	2,184	0	4,827	2,597	155,512	185,249

8.1.1i AGRO PROCESSING: Number of Crop Growing Households By type of By-Product and District During 2002/03 Agriculture Year, Kigoma Region

District	By Product										
	Bran	Cake	Husk	Juice	Fiber	Pulp	Oil	Shell	No by-product	Other	Total
Kibondo	466	133	2,255	0	0	0	0	1,147	46,157	0	50,158
Kasulu	1,774	191	3,550	591	1,574	3,103	394	786	59,549	0	71,512
Kigoma Rural	1,565	320	1,044	0	159	470	319	2,697	52,588	2,057	61,219
Kigoma Urban	507	64	32	0	134	69	32	455	1,068	0	2,359
Total	4,311	708	6,881	591	1,866	3,642	745	5,085	159,362	2,057	185,249

MARKETING

10.1 MARKETING: Number of Crop Producing Households Reported to have Sold Agricultural Produce by District During 2002/03; Kigoma Region

	Households that Sold		Households that Did not Sell		Total Number of households
	Number	%	Number	%	
Kibondo	33,570	65.3	17,837	34.7	51,407
Kasulu	74,709	94.1	4,687	5.9	79,396
Kigoma Rural	57,196	91.6	5,274	8.4	62,470
Kigoma Urban	2,158	86.6	334	13.4	2,492
Total	167,633	85.6	28,133	14.4	195,765

10.2 MARKETING: Number of Households who Reported Main Reasons for Not Selling their Crops by District During 2002/03 Agricultural Year, Kigoma Region

District	Main Reasons for Not Selling Crops								Total
	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Other	
Kibondo	526	21128	0	0	0	132	0	26769	48556
Kasulu	2758	16075	783	0	197	0	589	57027	77429
Kigoma Rural	310	7619	153	155	154	0	314	53616	62321
Kigoma Urban	0	336	0	0	0	0	0	2122	2458
Total	3593	45158	937	155	352	132	903	139534	190764

10.3 MARKETING: Proportion of Households who Reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year, Kigoma Region

District	Main Reasons for Not Selling Crops								Total
	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Other	
Kibondo	1	44	0	0	0	0	0	55	100
Kasulu	4	21	1	0	0	0	1	74	100
Kigoma Rural	0	12	0	0	0	0	1	86	100
Kigoma Urban	0	14	0	0	0	0	0	86	100
Total	2	24	0	0	0	0	0	73	100

IRRIGATION/EROSION CONTROL

11.1 Number and Percent of Households Reporting use of irrigation during 2002/03 Agricultural year by District

	Households Practicing Irrigation		Households not Practicing Irrigation		Total	
	Number of Household	%	Number of Household	%	Number of Household	%
Kibondo	2,307	4	49,100	96	51,407	100
Kasulu	9,379	12	70,017	88	79,396	100
Kigoma Rural	5,462	9	57,008	91	62,470	100
Kigoma Urban	268	11	2,224	89	2,492	100
Total	17,417	9	178,348	91	195,765	100

11.2 IRRIGATION: Area (ha) of Irrigatable and NON irrigated land by district during 2002/03 agriculture year

District	Irrigatable Area (ha)	Irrigated Land (ha)	%
Kibondo	571	409	72
Kasulu	2,760	2,186	79
Kigoma Rural	1,646	1,520	92
Kigoma Urban	52	42	81
Total	5,019	4,167	83

11.3 IRRIGATION: Number of Agriculture Households using irrigation by Source of Irrigation Water by districts during the 2002/03 agricultural Year

District	Source of Irrigation Water							Total
	River	Lake	Dam	Well	Borehole	Canal	Pipe water	
Kibondo	2,042	0	0	265	0	0	0	2,307
Kasulu	7,626	0	193	778	197	585	0	9,379
Kigoma Rural	4,112	751	0	146	0	453	0	5,462
Kigoma Urban	137	0	0	131	0	0	0	268
Total	13,917	751	193	1,321	197	1,038	0	17,417

11.4 IRRIGATION: Number of Agriculture Households by Method used to obtain water and District during 2002/03 Agricultural Year

District	Method of Obtaining Water				Total
	Gravity	Hand Bucket	Hand Pump	Motor Pump	
Kibondo	1,552	755	0	0	2,307
Kasulu	5,883	3,496	0	0	9,379
Kigoma Rural	1,246	4,216	0	0	5,462
Kigoma Urban	0	268	0	0	268
Total	8,681	8,736	0	0	17,417

11.5 IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and District for the 2002/03 Agricultural Year

District	Method of Application				Total
	Flood	Sprinkler	Water Hose	Bucket / Watering Can	
Kibondo	890	0	0	1,417	2,307
Kasulu	5,306	197	0	3,876	9,379
Kigoma Rural	1,246	0	160	4,057	5,462
Kigoma Urban	0	0	0	268	268
Total	7,442	197	160	9,618	17,417

11.6 IRRIGATION: Number of Households with Erosion Control/Water Harvesting Facilities on their Land By District

District	Presence of Erosion Control/Water Harvesting Facilities				Number of Households
	Have Facility		Does Not Have Facility		
	Number	%	Number	%	
Kibondo	4,072	8	47,336	92	51,407
Kasulu	7,214	9	72,183	91	79,396
Kigoma Rural	8,017	13	54,453	87	62,470
Kigoma Urban	68	3	2,424	97	2,492
Total	19,370	10	176,395	90	195,765

11.7 EROSION CONTROL: Number of Erosion Control/Water Harvesting Structures By Type and District as of 2002/03 Agricultural Year

District	Type of Erosion Control								Total
	Terraces	Erosion Control Bunds	Gabions / Sandbag	Vetiver Grass	Tree Belts	Water Harvesting Bunds	Drainage Ditches	Dam	
Kibondo	0	107,746	0	1,333	929	933	1,714	0	112,654
Kasulu	0	44,683	0	573	9,138	974	7,939	197	63,505
Kigoma Rural	14,158	237,631	0	479	618	0	3,678	154	256,718
Kigoma Urban	0	3,388	0	0	0	0	0	0	3,388
Total	14,158	393,448	0	2,385	10,684	1,907	13,331	351	436,265

ACCESS TO FARM INPUTS

12.1.1 ACCESS TO INPUTS: Number of Crop Growing Households Using Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Using Chemical Fertilizer		NOT Using Chemical Fertilizer		Total Number of Crop growing households
	No of households	%	No of households	%	
Kibondo	2,171	4.2	49,236	95.8	51,407
Kasulu	5,292	6.7	74,104	93.3	79,396
Kigoma Rural	6,885	11.0	55,585	89.0	62,470
Kigoma Urban	266	10.7	2,226	89.3	2,492
Total	14,614	7.5	181,151	92.5	195,765

12.1.2 ACCESS TO INPUTS: Number of Crop Growing Households Using Farm Yard Manure by District during 2002/03 Agricultural Year

District	Using Farm Yard Manure		Not Using Farm Yard Manure		Total Number of Crop growing households
	No of households	%	No of households	%	
Kibondo	12,388	24	39,403	76	51,791
Kasulu	17,840	22	61,556	78	79,396
Kigoma Rural	9,958	16	52,512	84	62,470
Kigoma Urban	860	34	1,632	66	2,492
Total	41,045	21	155,104	79	196,150

12.1.3 ACCESS TO INPUTS: Number of Crop Growing Households Using COMPOST Manure by District during 2002/03 Agricultural Year

District	Using Compost		Not Using Compost		Total Number of Crop growing households
	No of households	%	No of households	%	
Kibondo	2,114	4.1	49,172	95.9	51,286
Kasulu	7,472	9.4	71,925	90.6	79,396
Kigoma Rural	6,045	9.7	56,425	90.3	62,470
Kigoma Urban	409	16.4	2,083	83.6	2,492
Total	16,039	8.2	179,605	91.8	195,644

12.1.4 ACCESS TO INPUTS: Number of Crop Growing Households Using Insecticide/Fungicides by District during 2002/03 Agricultural Year

District	Using Insecticides/Fungicide		Not Using Insecticide/Fungi		Total Number of Crop growing households
	No of households	%	No of households	%	
Kibondo	3,949	8	47,459	92	51,407
Kasulu	3,133	4	76,263	96	79,396
Kigoma Rural	6,266	10	56,204	90	62,470
Kigoma Urban	165	7	2,326	93	2,492
Total	13,513	7	182,252	93	195,765

12.1.5 ACCESS TO INPUTS: Number of Crop Growing Households Using Herbicides by District during 2002/03 Agricultural Year

District	Using Herbicides		Not Using Herbicides		Total Number of Crop growing households
	No of households	%	No of households	%	
Kibondo	0	0	51,407	100	51,407
Kasulu	0	0	79,396	100	79,396
Kigoma Rural	149	0	62,321	100	62,470
Kigoma Urban	0	0	2,492	100	2,492
Total	149	0	195,616	100	195,765

12.1.6 ACCESS TO INPUTS: Number of Crop Growing Households using Improved Seeds by District during 2002/03 Agricultural Year

District	Using Improved Seeds		Not Using Improved Seeds		Total Number of Crop growing households
	No of households	%	No of households	%	
Kibondo	2,010	4	49,397	96	51,407
Kasulu	6,447	8	72,949	92	79,396
Kigoma Rural	4,917	8	57,553	92	62,470
Kigoma Urban	589	24	1,903	76	2,492
Ilemela	13,963	7	181,802	93	195,765
Total	27,926	51	363,604	449	391,531

12.1.7 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year

District	Local Market / Trade Store		Local Farmers Group		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	
Kibondo	1,905	3.7	0	0.0	0	0.0	49,236	95.8	51,141.4
Kasulu	4,108	5.2	0	0.0	0	0.0	74,104	93.3	78,212.3
Kigoma Rural	4,490	7.2	319	0.5	160	0.3	55,585	89.0	60,554.2
Kigoma Urban	266	10.7	0	0.0	0	0.0	2,226	89.3	2,491.9
Total	10,770	5.5	319	0.16	160	0.08	181,151	92.5	192,399.8

12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

District	Large Scale Farm		Local Farmers Group		Local Market / Trade Store		Locally Produced by		Neighbour		Not applicable	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	0	0.0	0	0.0	133	0.3	9,363	18.1	2,760	5.3	39,403	76.1
Kasulu	197	0.2	0	0.0	193	0.2	15,294	19.3	1,960	2.5	61,556	77.5
Kigoma Rural	0	0.0	0	0.0	0	0.0	7,799	12.5	1,998	3.2	52,512	84.1
Kigoma Urban	0	0.0	32	1.3	0	0.0	627	25.1	201	8.1	1,632	65.5
Total	197	0.1	32	0.0	326	0.2	33,083	16.9	6,920	3.5	155,104	79.1

12.1.9 ACCESS TO INPUTS: Number of Agricultural Households and Source of COMPOST Manure by District, 2002/03 Agricultural Year

District	Co-operative		Crop Buyers		Locally Produced by Household		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	0	0.0	0	0.0	2,114	4.1	0	0.0	49,172	95.9	51,286
Kasulu	0	0.0	0	0.0	7,080	8.9	194	0.2	71,925	90.6	79,199
Kigoma Rural	156	0.2	0	0.0	5,578	8.9	156	0.2	56,425	90.3	62,314
Kigoma Urban	0	0.0	0	0.0	409	16.4	0	0.0	2,083	83.6	2,492
Total	156	0.1	0	0.0	15,181	7.8	350	0.2	179,605	91.8	195,292

12.1.10 ACCESS TO INPUTS: Number of Agricultural Households and Source of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Local Market / Trade Store		Locally Produced by Household		Co-operative		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	2,600	5.1	262	0.5	500	1.0	455	0.9	47,459	92.3	51,276
Kasulu	2,541	3.2	0	0.0	592	0.7	0	0.0	76,263	96.1	79,396
Kigoma Rural	3,563	5.7	309	0.5	1,916	3.1	160	0.3	56,204	90.0	62,151
Kigoma Urban	165	6.6	0	0.0	0	0.0	0	0.0	2,326	93.4	2,492
Total	8,869	4.5	571	0.3	3,008	1.5	615	0.3	182,252	93.1	195,315

12.1.11 ACCESS TO INPUTS: Number of Agricultural Households by Source of Herbicides and District, 2002/03 Agricultural Year

District	Local Market / Trade Store		Not applicable	
	Number	%	Number	%
Kibondo	0	0.0	51,407	100.0
Kasulu	0	0.0	79,396	100.0
Kigoma Rural	149	0.2	62,321	99.8
Kigoma Urban	0	0.0	2,492	100.0
Total	149	0.1	195,616	99.9

12.1.12 ACCESS TO INPUTS: Number of Agricultural Households Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyers		Co-operative		Locally Produced by Household		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	0	0.0	1,116	2.2	0	0.0	133	0.3	262	0.5	500	1.0	0	0.0	0	0.0	49,265	96	51,143
Kasulu	192	0.2	3,722	4.7	0	0.0	0	0.0	0	0.0	0	0.0	1,754	2.2	779	1.0	72,949	92	77,642
Kigoma Rural	319	0.5	4,131	6.6	153	0.2	0	0.0	153	0.2	160	0.3	0	0.0	0	0.0	57,553	92	62,470
Kigoma Urban	0	0.0	459	18.4	0	0.0	0	0.0	0	0.0	32	1.3	66	2.7	32	1.3	1,903	76	2,426
Total	511	0.3	9,428	4.8	153	0.1	133	0.1	415	0.2	692	0.4	1,820	0.9	811	0.4	181,670	93	193,681

12.1.13 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	132	6	398	18	525	24	396	18	720	33	2,171
Kasulu	1,369	26	580	11	1,574	30	587	11	1,183	22	5,292
Kigoma Rural	1,594	23	1,277	19	1,281	19	618	9	2,115	31	6,885
Kigoma Urban	0	0	0	0	232	87	34	13	0	0	266
Total	3,094	21	2,255	15	3,612	25	1,636	11	4,017	27	14,614

12.1.14 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	10,751	87	796	6	442	4	266	2	133	1	12,388
Kasulu	16,459	92	1,381	8	0	0	0	0	0	0	17,840
Kigoma Rural	9,649	97	160	2	149	1	0	0	0	0	9,958
Kigoma Urban	725	84	100	12	34	4	0	0	0	0	860
Total	37,584	92	2,437	6	625	2	266	1	133	0	41,045

12.1.15 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of COMPOST Manure by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Total Number
	Number	%	Number	%	
Kibondo	2,114	100	0	0	2,114
Kasulu	7,274	97	197	2.6	7,471.8
Kigoma Rural	6,045	100	0	0.0	6,044.7
Kigoma Urban	409	100	0	0.0	409.0
Total	15,842	99	197	1.2	16,039.3

12.1.16 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	121	6	765	38	532	26	133	7	460	23	2,010
Kasulu	3,520	55	1,179	18	0	0	193	3	1,555	24	6,447
Kigoma Rural	779	16	315	6	479	10	295	6	3,048	62	4,917
Kigoma Urban	100	17	32	5	356	61	100	17	0	0	589
Total	4,521	32	2,291	16	1,367	10	721	5	5,063	36	13,963

12.1.17 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Insecticide/Fungicides by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	457	12	885	22	1,588	40	661	17	358	9	3,949
Kasulu	592	19	191	6	789	25	197	6	1,363	44	3,133
Kigoma Rural	1,582	25	1,277	20	1,121	18	305	5	1,981	32	6,266
Kigoma Urban	0	0	0	0	131	79	34	21	0	0	165
Total	2,631	19	2,353	17	3,629	27	1,198	9	3,702	27	13,513

12.1.18 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	3,377	7	44,818	91	264	1	0	0	0	0	777	2	0	0	0	0	49,236
Kasulu	5,863	8	64,722	87	785	1	589	1	392	1	782	1	0	0	972	1	74,104
Kigoma Rural	4,946	9	49,094	88	0	0	0	0	313	1	1,233	2	0	0	0	0	55,585
Kigoma Urban	65	3	2,029	91	0	0	0	0	32	1	66	3	0	0	34	2	2,226
Total	14,251	8	160,662	89	1,049	1	589	0	737	0	2,857	2	0	0	1,006	1	181,151

12.1.19 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Farm Yard Manure by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	17,247	44	11,075	28	7,675	19	1,061	3	782	2	1,562	4	0	0	0	0	39,403
Kasulu	35,285	57	18,051	29	5,304	9	1,170	2	387	1	971	2	0	0	389	1	61,556
Kigoma Rural	26,640	51	11,094	21	7,313	14	3,479	7	772	1	1,234	2	146	0	1,832	3	52,512
Kigoma Urban	362	22	970	59	69	4	163	10	0	0	33	2	0	0	34	2	1,632
Total	79,535	51	41,190	27	20,361	13	5,874	4	1,941	1	3,801	2	146	0	2,256	1	155,104

12.1.20 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using COMPOST Manure by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	1,388	3	5,087	10	34,746	71	4,656	9	1,473	3	0	4	0	0	0	0	47,350
Kasulu	10,974	15	17,473	24	31,752	44	1,557	2	5,076	7	1,550	2	0	0	3,542	5	68,382
Kigoma Rural	3,673	7	2,000	4	43,479	77	2,459	4	2,666	5	2,148	4	0	0	0	0	56,425
Kigoma Urban	99	5	403	19	1,379	65	33	2	100	5	68	3	0	0	34	2	2,083
Total	16,134	9	24,964	14	111,356	62	8,706	5	9,316	5	5,587	3	0	0	3,576	2	176,063

12.1.21 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	3,087	7	40,380	85	697	1	254	1	1,474	3	1,433	3	133	0	0	0	47,459
Kasulu	13,116	17	57,672	76	1,174	2	785	1	1,572	2	582	1	0	0	1,364	2	76,263
Kigoma Rural	3,212	6	49,119	87	456	1	0	0	2,490	4	927	2	0	0	0	0	56,204
Kigoma Urban	65	3	2,162	93	0	0	0	0	32	1	33	1	0	0	34	1	2,326
Total	19,480	11	149,334	82	2,326	1	1,039	1	5,567	3	2,975	2	133	0	1,398	1	182,252

12.1.22 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Herbicides by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	10,260	20.0	35,499	69.1	878	1.7	0	0.0	1,272	2	3,395	7	0	0	51,305
Kasulu	20,321	25.6	52,412	66.0	1,568	2.0	390	0.5	2,754	3	390	0	1,561	2	79,396
Kigoma Rural	3,819	6.1	50,630	81.2	296	0.5	0	0.0	4,044	6	3,532	6	0	0	62,321
Kigoma Urban	928	37.3	1,071	43.0	65	2.6	0	0.0	32	1	361	15	34	1	2,492
Total	35,328	18.1	139,612	71.4	2,808	1.4	390	0	8,101	4	7,679	4	1,595	1	195,514

12.1.23 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Improved Seeds by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	7,609	15	40,960	83	263	1	0	0	96	0	468	1	0	0	0	0	49,397
Kasulu	10,778	15	58,257	80	1,180	2	585	1	394	1	390	1	197	0	1,169	2	72,949
Kigoma Rural	8,304	14	46,763	81	588	1	0	0	158	0	1,586	3	154	0	0	0	57,553
Kigoma Urban	135	7	1,633	86	67	4	0	0	0	0	33	2	0	0	34	2	1,903
Total	26,827	15	147,613	81	2,098	1	585	0	648	0	2,477	1	351	0	1,203	1	181,802

12.1.24 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Total
	Number	%	Number	%	Number	%	
Kibondo	919	42	1,119	52	133	6	2,171
Kasulu	573	11	3,151	60	1,568	30	5,292
Kigoma Rural	3,166	46	3,719	54	0	0	6,885
Kigoma Urban	167	63	67	25	32	12	266
Total	4,825	33	8,055	55	1,733	12	14,614

Table 12.1.32 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Total
	Number	%	Number	%	Number	%	
Kibondo	2,987	24	7,043	57	2,359	19	12,388
Kasulu	4,297	24	9,602	54	3,940	22	17,840
Kigoma Rural	3,497	35	5,555	56	906	9	9,958
Kigoma Urban	464	54	364	42	32	4	860
Total	11,244	27	22,565	55	7,237	18	41,045

12.1.26 ACCESS TO INPUTS: Number of Agricultural Households and Quality of COMPOST Manure by District, 2002/03

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Kibondo	0	0	1,719	81	262	12	133	6	2,114
Kasulu	1,571	21	3,930	53	1,971	26	0	0	7,472
Kigoma Rural	960	16	4,929	82	156	3	0	0	6,045
Kigoma Urban	137	34	240	59	0	0	32	8	409
Total	2,669	17	10,817	67	2,389	15	164	1	16,039

12.1.27 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Kibondo	642	16	3,047	77	0	0	260	7	3,949
Kasulu	191	6	2,152	69	789	25	0	0	3,133
Kigoma Rural	2,068	33	3,586	57	612	10	0	0	6,266
Kigoma Urban	34	21	99	60	32	20	0	0	165
Total	2,935	22	8,884	66	1,434	11	260	2	13,513

12.1.28 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Herbicides by District, 2002/03 Agricultural Year

District	Excellent		Good		Total
	Number	%	Number	%	
Kibondo	0	0	0	0	0
Kasulu	0	0	0	0	0
Kigoma Rural	149	100	0	0	149
Kigoma Urban	0	0	0	0	0
Total	149	100	0	0	149

12.1.29 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Improved Seeds by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Kibondo	839	42	1,050	52	0	0	121	6	2,010
Kasulu	775	12	5,480	85	192	3	0	0	6,447
Kigoma Rural	1,847	38	2,917	59	153	3	0	0	4,917
Kigoma Urban	391	66	101	17	96	16	0	0	589
Total	3,853	28	9,548	68	442	3	121	1	13,963

12.1.30 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Chemical Fertilizer Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Chemical Fertilizers Next Year		Agricultural Households With NO Plan to use Next Year Chemical Fertilizers		Total
	Number	%	Number	%	
Kibondo	12,290	24	39,117	76	51,407
Kasulu	20,384	26	59,012	74	79,396
Kigoma Rural	27,787	44	34,683	56	62,470
Kigoma Urban	636	26	1,856	74	2,492
Total	61,097	31	134,668	69	195,765

12.1.31 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Farm Yard Manure Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Next Year Farm Yard Manure		Agricultural Households With NO Plan to use Next Year Farm Yard Manure		Total
	Number	%	Number	%	
Kibondo	24,468	47	27,323	53	51,791
Kasulu	35,052	44	44,344	56	79,396
Kigoma Rural	30,814	49	31,656	51	62,470
Kigoma Urban	1,462	59	1,030	41	2,492
Total	91,795	47	104,354	53	196,150

12.1.32 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use COMPOST Manure Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use COMPOST Manure Next Year		Agricultural Households With NO Plan to use COMPOST Manure Next Year		Total
	Number	%	Number	%	
Kibondo	12,626	25	38,660	75	51,286
Kasulu	23,138	29	56,259	71	79,396
Kigoma Rural	21,922	35	40,548	65	62,470
Kigoma Urban	607	24	1,884	76	2,492
Total	58,293	30	137,352	70	195,644

12.1.33 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Insecticides/Fungicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Pesticides/Fungicides Next Year		Agricultural Households With NO Plan to use Pesticides/Fungicides Next Year		Total
	Number	%	Number	%	
Kibondo	11,630	23	39,777	77	51,407
Kasulu	9,803	12	69,593	88	79,396
Kigoma Rural	18,735	30	43,735	70	62,470
Kigoma Urban	299	12	2,193	88	2,492
Total	40,468	21	155,298	79	195,765

12.1.34 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Herbicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Herbicides Next Year		Agricultural Households With NO Plan to use Herbicides Next Year		Total
	Number	%	Number	%	
Kibondo	2,688	5	48,719	95	51,407
Kasulu	3,725	5	75,671	95	79,396
Kigoma Rural	10,798	17	51,672	83	62,470
Kigoma Urban	68	3	2,424	97	2,492
Total	17,279	9	178,486	91	195,765

12.1.35 ACCESS TO INPUTS: Number of Agricultural Households with Plan to Use Improved Seeds Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Improved Seeds Next Year		Agricultural Households With NO Plan to use Improved Seeds Next Year		Total
	Number	%	Number	%	
Kibondo	11,900	23	39,507	77	51,407
Kasulu	19,184	24	60,213	76	79,396
Kigoma Rural	24,996	40	37,474	60	62,470
Kigoma Urban	1,195	48	1,296	52	2,492
Total	57,275	29	138,490	71	195,765

AGRICULTURE CREDIT

13.1a AGRICULTURE CREDIT: Number of Agriculture Households receiving Credit by sex of household head and District During the 2002/03 Agriculture Year

District	Male		Female		Total
	Number	%	Number	%	
Kibondo	251	100	0	0	251
Kasulu	1,363	88	192	12	1,555
Kigoma Rural	1,597	100	0	0	1,597
Kigoma Urban	3,211	94	192	6	3,403
Total	6,422	94	384	6	6,807

13.1b AGRICULTURE CREDIT: Number of Households Receiving Credit By Main Source of Credit and District; 2002/03 Agriculture Year.

District	Source of Credit				Total
	Family, Friend and Relative	Commercial Bank	Saving & Credit Society	Religious Organisation / NGO / Project	
Kibondo	0	121	0	130	251
Kasulu	575	789	191	0	1,555
Kigoma Rural	160	1,437	0	0	1,597
Kigoma Urban	735	2,347	191	130	3,403
Total	1,470	4,695	382	260	6,807

13.2a AGRICULTURE CREDIT: Number of Households Reporting the Main reasons for Not Using Credit by District During the 2002/03 Agriculture Year

District	Not needed	Not available	Did not want to go into debt	Interest rate/cost too high	Did not know how to get credit	Difficult bureaucracy procedure	Credit granted too late	Other	Don't know about credit	Total
Kibondo	1,809	6,362	2,492	395	18,968	1,584	267	0	19,279	51,156
Kasulu	2,346	29,579	5,860	783	22,189	980	193	394	15,518	77,841
Kigoma Rural	1,425	3,935	8,198	1,866	35,671	7,608	478	160	1,532	60,873
Kigoma Urban	204	33	827	263	597	233	0	0	335	2,492
Total	5,784	39,909	17,377	3,307	77,425	10,404	938	554	36,664	192,362

13.2b AGRICULTURE CREDIT: Number of Credits Received by Main Purpose of Credit and District During the 2002/03 Agriculture Year

District	Labour	Seeds	Agro-chemicals	Tools / Equipment	Livestock	Other	Total Credits
Kibondo	0	251	0	0	0	0	251
Kasulu	0	383	1,172	0	0	0	1,555
Kigoma Rural	0	160	1,437	958	0	0	2,555
Kigoma Urban	0	795	2,609	958	0	0	4,361
Total	0	1,590	5,217	1,916	0	0	8,722

TREE FARMING AND AGROFORESTRY

14.1 ON FARM TREE PLANTING: Number of Planted Trees By Species and District During the 2002/03 Agriculture Year, Kigoma Region

District	Senna Spp	Gravellis	Acacia Spp	Pinus Spp	Eucalyptus Spp	Cyprus Spp	Tectona Grandis	Total
Kibondo	105	3,223	0	0	7,318	182	4	10,832
Kasulu	72	7	0	0	8,939	31	0	9,049
Kigoma Rural	682	219	170	80	2,976	5	1	4,133
Kigoma Urban	202	0	0	0	0	0	0	202
Total	1,061	3,449	170	80	19,233	218	5	24,216
%	4.4	14.2	0.7	0.3	79.4	0.9	0.0	100.0

cont... Number of Planted Trees By Species and District During the 2002/03 Agriculture Year, Kigoma Region

District	Jakaranda Spp	Moringa Spp	Maesopsis Berchemoides	Leucena Spp	Syzgium Spp	Azadritachta Spp	Trichilia Spp	Total
Kibondo	2	64	38	0	0	0	0	104
Kasulu	11	0	0	0	6	0	0	17
Kigoma Rural	0	10	88	0	2	33	0	133
Kigoma Urban	7	0	0	0	0	0	0	7
Total	20	74	126	0	8	33	0	261
%	7.7	28.4	48.3	0.0	3.1	12.6	0.0	100.0

14.4 ON FARM TREE PLANTING: Number of Agriculture Households Classified by Distance to Community Planted Forest (Km) By District During the 2002/03 Agriculture Year, Kigoma Region

District	Distance to community planted forest (Km).					
	1-9	1-19	20-29	30-39	60+	Total
Kibondo	4,750	1,846	655	525	129	7,906
Kasulu	8,862	3,550	987	394	0	13,792
Kigoma Rural	0	153	2,240	0	0	2,393
Kigoma Urban	13,612	5,549	3,882	919	129	24,091
Total	27,225	11,097	7,764	1838	259	48182
%	57	23	16	4	1	100

14.5 ON FARM TREE PLANTING: Number of responses by Second use of planted trees and District for the 2002/03 agriculture year, Kigoma Region

District	Second Use							Total
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	
Kibondo	6040.0486	1732.4988	0	133	0	0	0	7906
Kasulu	783.15181	3157.1808	592	3749	0	0	4733.2911	13989
Kigoma Rural	0	0	0	153	0	0	0	2393
Kigoma Urban	6823.2004	4889.6796	592	4036	0	0	4733.2911	24289
Total	13646	9779	1184	8072	0	0	9467	48577

CROP EXTENSION

15.1 CROP EXTENSION: Number of Agriculture Households Receiving Extension Messages by District During the 2002/03 Agriculture Year, Mwanza Region

	Households Receiving Extension Advice		Households Not Receiving Extension Advice		Total Number of Households
	Number	%	Number	%	
Kibondo	24,172	47	27,235	53	51,407
Kasulu	37,004	47	42,393	53	79,396
Kigoma Rural	54,882	88	7,588	12	62,470
Kigoma Urban	2,359	95	133	5	2,492
Total	118,417	60	77,348	40	195,765

15.2 CROP EXTENSION: Number of Households By Quality of Extension Services and District During the 2002/03 Agricultural Year, Mwanza Region

	Very Good		Good		Average		Poor		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	1,832	7.6	16,102	67.0	5,973	24.8	133	0.6	24,040	100
Kasulu	2,134	5.8	26,038	70.4	8,640	23.3	192	0.5	37,004	100
Kigoma Rural	9,563	17.4	25,637	46.7	19,235	35.0	447	0.8	54,882	100
Kigoma Urban	404	17.1	1,153	48.9	802	34.0	1.4	0.1	2,359	100
Total	13,933	11.8	68,930	58.3	34,650	29.3	773	0.7	118,285	100

15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Crop Extension Messages and District During the 2002/03 Agriculture Year, Mwanza Region

	Government		NGO / Development Project		Large Scale Farm		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	23,470	97	572	2	0	0	130	1	0	0	24,172	100
Kasulu	33,878	92	2,150	6	779	2	0	0	0	0	37,004	100
Kigoma Rural	52,529	97	782	1	153	0	476	1	308	1	54,249	100
Kigoma Urban	2,325	99	0	0	34	1	0	0	0	0	2,359	100
Ilemela	112,202	95	3,504	3	966	1	606	1	308	0	117,784	100
Total	224,405	95	7,008	3	1,933	1	1,212	1	617	0	235,568	100

15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Mwanza Region

District	Spacing					Total	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable		
Ukerewe	6,324	0	0	0	0	6,324	11
Magu	14,258	2,741	138	0	0	17,137	28
Kwimba	7,940	0	0	0	0	7,940	13
Sengerema	8,571	0	584	135	0	9,289	15
Geita	5,494	169	507	0	0	6,171	10
Missungwi	6,871	176	0	0	0	7,047	12
Ilemela	5,517	604	58	0	48	6,228	10
Total	54,975	3,690	1,287	135	48	60,136	100

15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agrochemicals by Source of Extension Messages and District During the 2002/03 Agriculture Year, Mwanza Region

District	Use of Agrochemicals					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable		
Ukerewe	3,482	0	0	0	0	3,482	10
Magu	10,274	1,080	0	138	0	11,492	32
Kwimba	4,205	185	102	0	0	4,493	12
Sengerema	4,477	0	0	0	0	4,477	12
Geita	3,889	169	0	0	0	4,058	11
Missungwi	3,281	935	0	0	0	4,217	12
Ilemela	2,886	667	0	216	140	3,910	11
Total	32494.43897	3037.2235	101.8443534	354.2820282	140.09703	36,128	100

15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Mwanza Region

District	Erosion Control					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other		
Ukerewe	4,799	0	0	83	0	4,882	12
Magu	6,383	8,200	254	134	0	14,972	38
Kwimba	5,746	0	0	0	0	5,746	15
Sengerema	5,416	0	0	433	0	5,849	15
Geita	1,806	0	0	0	0	1,806	5
Missungwi	2,303	330	0	0	0	2,634	7
Ilemela	2,765	606	0	58	257	3,686	9
Total	29,219	9,137	254	708	257	39,575	100

15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Spacing					Total	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable		
Kibondo	22,398	572	0	130	0	23,100	20.3
Kasulu	31,712	2,150	779	0	0	34,641	30.5
Kigoma Rural	52,369	315	153	476	308	53,622	47.2
Kigoma Urban	2,161	0	34	0	0	2,195	1.9
Total	108,641	3,037	966	606	308	113,558	100.0

15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agrochemicals by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Use of Agrochemicals					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable		
Kibondo	13,642	1,632	0	0	228	15,502	23.7
Kasulu	10,980	1,758	195	389	192	13,514	20.7
Kigoma Rural	34,047	479	0	153	458	35,298	54.1
Kigoma Urban	931	0	0	34	0	965	1.5
Total	59600.18321	3868.777	194.8525714	576.6221865	878.15035	65,278	100.0

15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Erosion Control					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other		
Kibondo	5,748	3,738	0	0	83	9,569	15.6
Kasulu	9,239	1,963	394	586	0	12,183	19.9
Kigoma Rural	37,367	1,053	0	0	156	38,576	62.9
Kigoma Urban	998	0	0	0	0	998	1.6
Total	53,352	6,754	394	586	239	61,326	100.0

15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Organic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kibondo	16,198	2,142	0	102	166	133	18,741	51,931	36.1
Kasulu	21,773	1,761	197	389	0	387	24,506	81,963	29.9
Kigoma Rural	43,514	908	0	313	160	0	44,895	64,901	69.2
Kigoma Urban	1,831	32	0	0	0	32	1,895	2,572	73.7
Total	83,315	4,842	197	805	327	552	90,037	201,367	44.7

15.8 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Inorganic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development	Cooperative	Large Scale	Other	Not applicable	Total		
Kibondo	9,847	2,277	0	0	0	265	12,389	51,931	23.9
Kasulu	14,316	1,178	0	388	0	196	16,078	81,963	19.6
Kigoma Rural	40,431	901	160	160	137	0	41,789	64,901	64.4
Kigoma Urban	1,258	0	0	0	0	0	1,258	2,572	48.9
Total	65,853	4,355	160	548	137	461	71,514	201,367	35.5

15.9 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Use of Improved Seed						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kibondo	14,504	1,821	0	0	361	16,686	51,931	32
Kasulu	10,560	1,178	1,358	192	392	13,680	81,963	16.7
Kigoma Rural	40,115	2,434	0	0	160	42,709	64,901	65.8
Kigoma Urban	1,890	32	0	0	0	1,922	2,572	74.7
Total	67,070	5,464	1,358	192	913	74,998	201,367	37.2

15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Mechanization/LST by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Mechanisation / LST					% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Not applicable	Total	
Kibondo	1,782	0	83	0	1,865	9.7
Kasulu	2,951	394	0	0	3,345	17.4
Kigoma Rural	13,747	0	0	149	13,896	72.5
Kigoma Urban	69	0	0	0	69	0.4
Total	18,548	394	83	149	19,174	100.0

15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Irrigation Technology by Source of Extension Messages and District During the 2002/03 Agriculture Year,

District	Irrigation Technology					Total	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable		
Kibondo	6,125	357	0	0	96	6,578	16.8
Kasulu	2,741	985	197	197	197	4,317	11.0
Kigoma Rural	27,067	156	0	153	309	27,684	70.7
Kigoma Urban	496	0	0	34	32	562	1.4
Total	36,429	1,497	197	384	634	39,142	100.0

15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Crop Storage by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Crop Storage						Total	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable		
Kibondo	16,710	1,603	83	102	0	889	19,388	21.2
Kasulu	20,841	2,361	197	1,556	0	0	24,955	27.3
Kigoma Rural	44,852	292	0	0	311	0	45,455	49.8
Kigoma Urban	1,422	32	0	34	0	0	1,488	1.6
Total	83,825	4,288	280	1,692	311	889	91,286	100.0

15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Vermin Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Vermin Control						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kibondo	4,366	214	133	0	227	4,939	51,931	9.5
Kasulu	6,494	986	2,130	195	592	10,397	81,963	12.7
Kigoma Rural	31,732	685	778	0	160	33,356	64,901	51.4
Kigoma Urban	964	0	0	0	0	964	2,572	37.5
Total	43,556	1,885	3,042	195	979	49,656	201,367	24.7

15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Agro-progressing						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kibondo	9,431	367	102	0	1,547	11,447	51,931	22.0
Kasulu	2,356	395	390	0	197	3,338	81,963	4.1
Kigoma Rural	40,722	285	160	156	320	41,642	64,901	64.2
Kigoma Urban	1,251	32	103	0	0	1,385	2,572	53.9
Total	53,760	1,078	755	156	2,064	57,812	201,367	28.7

15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Agro-forestry						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Cooperativ	Not applicable	Total		
Kibondo	7,279	4,201	0	83	363	11,926	51,931	23.0
Kasulu	3,536	2,546	0	0	0	6,082	81,963	7.4
Kigoma Rural	25,059	2,335	0	0	304	27,697	64,901	42.7
Kigoma Urban	891	34	34	0	0	960	2,572	37.3
Total	36,766	9,116	34	83	666	46,665	201,367	23.2

15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee keeping by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Bee keeping				
	Government	NGO / Development Project	Not applicable	Total	% of total number of households
Kibondo	780	398	361	1,539	23.8
Kasulu	1,170	194	0	1,364	21.1
Kigoma Rural	3,095	0	447	3,542	54.7
Kigoma Urban	33	0	0	33	0.5
Total	5,078	592	808	6,479	100.0

15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Fish Farming by Source of Extension Messages and District During the 2002/03 Agriculture Year, Kigoma Region

District	Fish Farming				
	Government	NGO / Development Project	Not applicable	Total	% of total number of households
Kibondo	214	2,499	229	2,943	40.9
Kasulu	583	194	197	974	13.5
Kigoma Rural	2,619	0	596	3,215	44.7
Kigoma Urban	66	0	0	66	0.9
Total	3,482	2,694	1,023	7,198	100.0

15.18 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1) During the 2002/03 Agriculture Year, Kigoma Region

District	Spacing			Use of Agrochemicals			Erosion Control		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kibondo	23,017	22,704	98.6	15,536	3,228	14.0	10,010	2,408	10.5
Kasulu	34,838	29,133	83.6	13,921	7,242	20.8	12,188	8,456	24.3
Kigoma Rural	53,777	49,440	91.9	34,876	7,807	14.5	38,751	19,429	36.1
Kigoma Urban	2,195	1,937	88.3	965	235	10.7	964	494	22.5
Total	113,828	103,213	90.7	65,299	18,513	16.3	61,913	30,788	27.0

15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) During the 2002/03 Agriculture Year, Kigoma Region

District	Organic Fertilizer Use			Inorganic Fertilizer Use			Use of Improved Seed		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kibondo	19,106	6,518	34.1	12,519	1,409	11.3	16,590.4	2,318.1	14.0
Kasulu	24,112	17,457	72.4	14,902	7,252	48.7	14,464.0	3,493.6	24.2
Kigoma Rural	45,046	13,805	30.6	42,095	6,890	16.4	43,020.1	7,712.9	17.9
Kigoma Urban	1,929	967	50.2	1,293	231	17.8	1,922.1	956.3	49.8
Total	90,193	38,748	43.0	70,808	15,781	22.3	75,996.5	14,480.9	19.1

15.20 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3) During the 2002/03 Agriculture Year, Kigoma Region

District	Mechanisation / LST			Irrigation Technology			Crop Storage		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kibondo	1,832	0	0	6,136	3,384	55	18,631	18,536	99
Kasulu	3,943	0	0	4,317	1,166	27	24,963	23,202	93
Kigoma Rural	13,938	309	2	27,413	5,138	19	45,775	40,249	88
Kigoma Urban	0	0	0	530	236	45	1,488	987	66
Total	19,713	309	2	38,397	9,924	26	90,857	82,974	91

15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) During the 2002/03 Agriculture Year, Kigoma Region

District	Vermin Control			Agro-progressing			Agro-forestry		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kibondo	4,600	3,904	85	9,291	10,870	117	12,195	6,128	50.2
Kasulu	10,403	8,040	77	2,946	976	33	6,279	4,512	71.9
Kigoma Rural	33,385	28,021	84	41,497	36,035	87	27,242	11,229	41.2
Kigoma Urban	964	567	59	1,417	1,319	93	960	430	44.8
Total	49,352	40,532	82	55,150	49,199	89	46,676	22,299	47.8

15.22 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5) During the 2002/03 Agriculture Year, Kigoma Region

District	Beekeeping			Fish Farming		
	Received	Adopted	%	Received	Adopted	%
Kibondo	662	133	20.1	2,764	132	4.8
Kasulu	1,754	1,169	66.7	387	0	0.0
Kigoma Rural	2,782	0	0.0	2,169	0	0.0
Kigoma Urban	33	0	0.0	0	0	0.0
Total	5,232	1,303	25	5,320	132	2.5

ANIMAL CONTRIBUTION TO CROP PRODUCTION

17.1 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number of agriculture households using draft animal to cultivate land by District during 2002/03 agriculture year, Kigoma Region

	Households Using Draft Animals		Household Not Using Draft Animals		Total households
	Number	%	Number	%	
Kibondo	0	0	51,407	100	51,407
Kasulu	197	0	79,199	100	79,396
Kigoma Rural	474	1	61,996	99	62,470
Kigoma Urban	0	0	2,492	100	2,492
Total	671	0.3	195,094	99.7	195,765

17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 agriculture year, Kigoma Region

District	Type of Craft					
	Oxen			Bulls		
	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)
Kibondo	0	0	0	0	0	0
Kasulu	0	0	0	0	0	0
Kigoma Rural	5,071	5,071	1,811	0	0	0
Kigoma Urban	0	0	0	0	0	0
Total	5,071	5,071	1,811	0	0	0

17.3 ANIMAL CONTRIBUTION TO CROPS: Number of Crop Growing households using organic fertilizer by District during 2002/03 agriculture year, Kigoma

District	Did you apply organic fertilizer during 2002/03?					
	Using Organic Fertilizer		Not Using Organic Fertilizer		Total	
	Number	%	Number	%	Number	%
Kibondo	10,554	25.7	40,770	26.9	51,324	26.6
Kasulu	18,049	43.9	58,599	38.6	76,648	39.7
Kigoma Rural	11,543	28.1	50,927	33.5	62,470	32.4
Kigoma Urban	965	2.3	1,527	1.0	2,492	1.3
Total	41,110	100.0	151,824	100.0	192,934	100.0

17.4 ANIMAL CONTRIBUTION TO CROPS: Area of farm yard manure and Compost Application by District during 2002/03 agriculture year, Kigoma Region

District	Farm Yard Manure Area Applied		Compost Area Applied		Total Area Applied with Organic Fertilizers	
	Area (Ha)	%	Area (Ha)	%	Area (Ha)	%
Kibondo	4,655	29.0	927	14.7	5,582	25.0
Kasulu	6,665	41.5	3,960	63.0	10,625	47.5
Kigoma Rural	4,496	28.0	1,297	20.6	5,793	25.9
Kigoma Urban	260	1.6	101	1.6	361	1.6
Total	16,075	100.0	6,285	100.0	22,360	100.0

CATTLE PRODUCTION

18.1 CATTLE PRODUCTION: Total Number Households rearing Cattle by District during 2002/03 agriculture year, Kigoma Region

District	Households Rearing Cattle		Households Not Rearing Cattle		Total Agriculture households	Total livestock keeping households
	Number	% of Total cattle	Number	% of Total cattle		
Kibondo	5,181	10.1	46,226	89.9	51,931	5,181
Kasulu	14,722	18.5	64,674	81.5	81,963	14,722
Kigoma Rural	1,740	2.8	60,730	97.2	64,901	1,740
Kigoma Urban	68	2.7	2,424	97.3	2,572	68
Total	21,711	11.1	174,055	88.9	201,367	21,711

18.2 CATTLE PRODUCTION: Number of Cattle By Type and District as of 1st October, 2003

District	Indigenous			Improved Beef			Improved Dairy			Total Cattle		
	Number of Households	Number of Cattle	% of Total cattle	Number of Households	Number of Cattle	% of Total cattle	Number of Households	Number of Cattle	% of Total cattle	Number of Households	Number of Cattle	% of Total cattle
Kibondo	5,098	38,392	99	0	0	0	216	516	1	5,181	38,908	100
Kasulu	14,722	166,793	100	0	0	0	197	197	0	14,722	166,991	100
Kigoma Rural	1,740	215,824	100	0	0	0	0	0	0	1,740	215,824	100
Kigoma Urban	68	603	95	0	0	0	34	34	5	68	637	100
Total	21,627	421,613	100	0	0	0	448	748	0	21,711	422,361	100

18.3 CATTLE PRODUCTION: Number of Households Rearing Cattle, Head of Cattle and Average Head per Household by Herd Size as of 1st October, 2003

Herd Size	Cattle Rearing Households		Heads of Cattle		Average Number Per Household
	Number	%	Number	%	
1-5	17,336	81.8	51,465	39.5	3
6-10	2,540	12.0	17,751	13.6	7
11-15	0	0.0	0	0.0	0
16-20	129	0.6	1,728	1.3	13
21-30	421	2.0	11,441	8.8	27
31-40	0	0.0	0	0.0	0
41-50	320	1.5	13,781	10.6	43
51-60	0	0.0	0	0.0	0
61-100	446	2.1	33,965	26.1	76
101-150	0	0.0	0	0.0	0
151+	0	0.0	0	0.0	0
Total	21,193	100.0	130,132	100.0	6

18.4 CATTLE PRODUCTION: Number of Cattle by Category and Type of Cattle; on 1st October 2003

Category of Cattle	Indigenous Cattle		Improved Beef Cattle		Improved Dairy Cattle		Total	
	Number	%	Number	%	Number	%	Number	%
Bulls	31,756	99	0	0	216	0.7	31,973	100
Cows	121,564	100	0	0	315	0.3	121,878	100
Steers	13,006	100	0	0	0	0.0	13,006	100
Heifers	200,716	100	0	0	133	0.1	200,850	100
Male Calves	22,708	100	0	0	0	0.0	22,708	100
Female Calves	31862.817	99.739574	0	0	83	0.3	31946.0124	100
Total	421613.02	99.822959	0	0	748	0.2	422360.771	100

18.5 CATTLE PRODUCTION: Number of Indigenous Cattle By Category and District as on 1st October, 2003

District	Category - Indigenous						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
Kibondo	15,586	12,018	266	3,907	2,702	3,914	38,392
Kasulu	6,082	22,960	786	124,826	6,268	5,871	166,793
Kigoma Rural	9,888	86,317	11,954	71,983	13,705	21,977	215,824
Kigoma Urban	201	269	0	0	33	100	603
Total	31,756	121,564	13,006	200,716	22,708	31,863	421,613

18.7 CATTLE PRODUCTION: Number of Improved Dairy Cattle By Category and District as on 1st October, 2003

District	Category - Improved Dairy Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Kibondo	216	83	0	133	0	83	516
Kasulu	0	197	0	0	0	0	197
Kigoma Rural	0	0	0	0	0	0	0
Kigoma Urban	0	34	0	0	0	0	34
Total	216	315	0	133	0	83	748

18.8 CATTLE PRODUCTION: Number of Cattle By Category and District as on 1st October, 2003

District	Total Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Kibondo	15,802	12,101	266	4,040	2,702	3,997	38,908
Kasulu	6,082	23,157	786	124,826	6,268	5,871	166,991
Kigoma Rural	9,888	86,317	11,954	71,983	13,705	21,977	215,824
Kigoma Urban	201	303	.	.	33	100	637
Total	31,973	121,878	13,006	200,850	22,708	31,946	422,361

GOATS PRODUCTION

19.1 GOAT PRODUCTION: Number of Goats by Type and District as on 1st October, 2003

District	Indigenous			Improved for Meat			Improved Dairy			Total Goat		
	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%
Kibondo	27,226	147,950	99.4	83	166	0.1	216	683	0.5	27,226	148,799	100.0
Kasulu	26,852	136,156	100.0	0	0	0.0	0	0	0.0	26,852	136,156	100.0
Kigoma Rural	19,166	135,612	99.5	153	153	0.1	158	473	0.3	19,166	136,239	100.0
Kigoma Urban	895	4,410	100.0	0	0	0.0	0	0	0.0	895	4,410	100.0
Total	74,139	424,129	99.7	236	320	0.1	374	1,156	0.3	74,139	425,604	100.0

19.2 GOAT PRODUCTION: Number of Households Rearing Goats by Herd Size on 1st October, 2003

Herd Size	Goat Rearing Households		Head of Goats		Average Number Per Household
	Number	%	Number	%	
1-4	40,005	54	101,321	24	3
5-9	23,691	32	154,793	36	7
10-14	6,694	9	76,017	18	11
15-19	1,809	2	30,557	7	17
20-24	709	1	15,813	4	22
25-29	157	0	3,964	1	25
30-39	623	1	20,706	5	33
40+	451	1	22,433	5	50
Total	74,139	100	425,604	100	6

19.3 GOAT PRODUCTION: Number of Goats by Category and Type of Goat as of 1st October, 2003 and District

Category of Goats	Indigenous Goats		Improved Meat Goats		Improved Dairy Goats		Total	
	Number	%	Number	%	Number	%	Number	%
Billy Goat	53,160	99.7	0	0.0	133	0.3	53,293	100.0
Castrated Goat	17,080	97.6	0	0.0	416	2.4	17,496	100.0
She Goat	245,701	99.7	166	0.1	606	0.2	246,473	100.0
Male Kid	45,511	100.0	0	0.0	0	0.0	45,511	100.0
She Kid	62,677	99.8	153	0.2	0	0.0	62,831	100.0
Total	424,129	99.7	320	0.1	1,156	0.3	425,604	100.0

19.4 GOAT PRODUCTION: Number of Indigenous Goat by Category and District as on 1st October, 2003

District	Number of Indigenous Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kibondo	18,585	8,816	87,982	14,823	17,745	147,950
Kasulu	14,112	5,486	81,330	12,940	22,288	136,156
Kigoma Rural	20,098	2,646	74,053	17,049	21,765	135,612
Kigoma Urban	365	131	2,335	699	880	4,410
Total	53,160	17,080	245,701	45,511	62,677	424,129

19.5 GOAT PRODUCTION: Number of Improved Goat for Meat by Category and District as on 1st October, 2003

District	Number of Improved Meat Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kibondo	0	0	166	0	0	166
Kasulu	0	0	0	0	0	0
Kigoma Rural	0	0	0	0	153	153
Kigoma Urban	0	0	0	0	0	0
Total	0	0	166	0	153	320

19.6 GOAT PRODUCTION: Number of Improved Dairy Goat by Category and District on 1st October, 2003

District	Number of Improved Dairy Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kibondo	133	416	133	0	0	683
Kasulu	0	0	0	0	0	0
Kigoma Rural	0	0	473	0	0	473
Kigoma Urban	0	0	0	0	0	0
Total	133	416	606	0	0	1,156

19.7 GOAT PRODUCTION: Number of Goats by Category and District on 1st October, 2003

District	Total Goat					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kibondo	18,718	9,232	88,282	14,823	17,745	148,799
Kasulu	14,112	5,486	81,330	12,940	22,288	136,156
Kigoma Rural	20,098	2,646	74,527	17,049	21,918	136,239
Kigoma Urban	365	131	2,335	699	880	4,410
Total	53,293	17,496	246,473	45,511	62,831	425,604

SHEEP PRODUCTION

20.1 SHEEP PRODUCTION: Total Number of Sheep By Breed and on 1st October 2003

Breed	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Ram	5,502	5.3	0	0.0	5,502	5.3
Castrated Sheep	16,533	16.0	0	0.0	16,533	16.0
She Sheep	28,882	27.9	0	0.0	28,882	27.9
Male Lamb	888	0.9	0	0.0	888	0.9
She Lamb	51,805	50.0	0	0.0	51,805	50.0
Total	103,611	100.0	0	0.0	103,611	100.0

20.2 SHEEP PRODUCTION: Number of Households Raising or Managing Sheep by District on 1st October, 2003

District	Households Raising Sheep		Households Not Raising Sheep		Number of Agricultural Households	Total Sheep keeping Households
	Number	%	Number	%		
Kibondo	1,976	4	49,431	96	5,181	51,407
Kasulu	4,130	5	75,266	95	14,722	79,396
Kigoma Rural	5,876	9	56,594	91	1,740	62,470
Kigoma Urban	328	13	2,163	87	68	2,492
Total	12,311	6	183,455	94	21,711	195,765

20.3 SHEEP PRODUCTION: Number of Sheep by Type of Sheep and District as 1st October, 2002/03

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Kibondo	5,502	10.6	0	0	5,502	10.6
Kasulu	16,533	31.9	0	0	16,533	31.9
Kigoma Rural	28,882	55.8	0	0	28,882	55.8
Kigoma Urban	888	1.7	0	0	888	1.7
Total	51,805	100.0	0	0	51,805	100.0

20.4 SHEEP PRODUCTION: Number of Households and Heads of Sheep by Herd Size on 1st October 2003

Herd Size	Number of Household	%	Number of Sheep	%	Average Number Per Household
1-4	8,738	72	19,636	38	2.2
5-9	2,216	18	14,474	28	6.5
10-14	893	7	10,221	20	11.4
15-19	148	1	2,667	5	18.0
20-24	0	0	0	0	0.0
25-29	0	0	0	0	0.0
30-39	160	1	4,807	9	30.0
40+	0	0	0	0	0.0
Total	12,155	100	51,805	100	68

20.6 SHEEP PRODUCTION: Total Number of Indigenous Sheep by Sheep Type and District on 1st October 2003

District	Number of Indigenous Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Kibondo	1,596	133	397	133	396	2,654
Kasulu	197	0	393	0	0	590
Kigoma Rural	1,211	0	1,241	631	149	3,232
Kigoma Urban	32	0	319	64	0	415
Total	3,037	133	2,350	827	545	6,891

20.8 SHEEP PRODUCTION: Total Number of Sheep by Sheep Type and District on 1st October 2003

District	Total Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Kibondo	396	0	3,724	490	892	5,502
Kasulu	2,558	1,576	9,245	1,575	1,579	16,533
Kigoma Rural	5,868	153	17,876	1,739	3,245	28,882
Kigoma Urban	200	0	523	67	98	888
Total	9,023	1,729	31,367	3,871	5,815	51,805

PIGS PRODUCTION

21.1 PIG PRODUCTION: Number of Households and Pigs by Herd Size on 1st October

Herd Size	Pig Rearing Households		Heads of Pigs		Average Number Per Household
	Number	%	Number	%	
1-4	3,005	60	5,717	24	2
5-9	1,435	29	9,362	40	7
10-14	429	9	4,590	19	11
Total	4,869	97	19,668	83	4

21.2 PIG PRODUCTION: Number of Households and Pigs by District on 1st October 2003

District	Number of Household	Number of Pig	Average Number Per Household
Kibondo	763	1,689	2.214
Kasulu	1,973	11,444	5.800
Kigoma Rural	2,219	9,914	4.467
Kigoma Urban	69	652	9.500
Total	5,024	23,698	4.717

21.3 PIG PRODUCTION: Number of Pigs by Type and District on 1st October, 2003

District	Boar	Castrated Male	Sow / Gilt	Male Piglet	She Piglet	Total
Kibondo	131	.	630	398	530	1,689
Kasulu	1,184	592	3,946	3,749	1,973	11,444
Kigoma Rural	790	.	3,157	2,534	3,433	9,914
Kigoma Urban	.	.	137	69	446	652
Total	2,104	592	7,870	6,750	6,382	23,698

LIVESTOCK PESTS AND PARASITE CONTROL

22.1 PESTS AND PARASITE: Number of Livestock Rearing households deworming Livestock by District during 2002/03 Agricultural Year

District	Deworming Livestock		Not Deworming Livestock		Total
	Number of Households	%	Number of Households	%	
Kibondo	11,345	65	6,022	35	17,367
Kasulu	17,468	67	8,623	33	26,091
Kigoma Rural	7,754	48	8,294	52	16,048
Kigoma Urban	171	28	434	72	605
Total	36,738	61	23,373	39	60,110

22.2 PESTS AND PARASITE: Number of Livestock Rearing Households that dewormed Livestock by type of Livestock and District during the 2002/03 Agricultural Year

District	Goats		Cattle		Sheep		Pigs	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Kibondo	7,685	34	4,760	24	1,530	23	1,951	35
Kasulu	8,440	38	13,146	65	3,351	49	2,562	46
Kigoma Rural	6,163	28	2,172	11	1,841	27	955	17
Kigoma Urban	103	0	33	0	69	1	69	1
Total	22,391	100	20,111	100	6,791	100	5,536	100

22.3 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of agricultural households reporting to have encountered tick problems during 2002/03 Agriculture Year by District.

District	Ticks Problems		No Ticks Problems		Total
	Number of Households	%	Number of Households	%	
Kibondo	8,784	51	8,366	49	17,150
Kasulu	14,914	60	9,994	40	24,907
Kigoma Rural	5,017	32	10,560	68	15,576
Kigoma Urban	134	22	471	78	605
Total	28,848	50	29,390	50	58,239

22.4 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Ticks Control Use and District During the 2002/03 Agricultural Year

District	Method of Tick Control										Total
	None		Spraying		Dipping		Smearing		Other		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Kibondo	3,245	37	4,719	54	83	1	0	0	736	8	8,784
Kasulu	1,568	11	4,689	31	8,656	58	0	0	0	0	14,914
Kigoma Rural	780	16	2,202	44	1,119	22	153	3	762	15	5,017
Kigoma Urban	101	75	0	0	0	0	33	25	0	0	134
Total	5,695	20	11,610	40	9,858	34	187	1	1,498	5	28,848

22.5 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of agricultural households reporting to have encountered Tsetse Flies problems during 2002/03 Agriculture Year by District

District	Tsetse Flies Problems		No Tsetse Flies Problems		Total
	Number of Households	%	Number of Households	%	
Kibondo	397	2	16,703	98	17,100
Kasulu	1,940	8	23,362	92	25,302
Kigoma Rural	1,257	8	14,634	92	15,890
Kigoma Urban	102	17	503	83	605
Total	3,696	6	55,201	94	58,898

22.6 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Tsetse flies Control Use and District During the 2002/03 Agricultural Year

District	Method of Tsetse Flies Control								Total
	None		Spray		Dipping		Trapping		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Kibondo	397	100	0	0	0	0	397	100	397
Kasulu	587	30	1,354	70	0	0	1,940	100	1,940
Kigoma Rural	476	38	467	37	313	25	1,257	100	1,257
Kigoma Urban	102	100	0	0	0	0	102	100	102
Total	1,562	42	1,821	49	313	8	3,696	100	3,696

OTHER LIVESTOCK

23a OTHER LIVESTOCK: Total Number of Other Livestock by Type on 1st October 2003

Type	Chicken		Others	
	Number	%	Type	Number
Indigenous	785,308	98.5	Ducks	51,782
Layer	10,349	1.3	Turkeys	592
Broiler	1,879	0.2	Rabbits	92,174
Total	797,537	100.0		144,548

23b OTHER LIVESTOCK: Number of Chicken by Category of Chicken and District on 1st October 2003

District	Number of Chicken			Total Number of Chicken
	Indigenous Chicken	Layer	Broiler	
Kibondo	202,592	0	0	202,592
Kasulu	211,326	0	0	211,326
Kigoma Rural	360,271	9,542	1,879	371,692
Kigoma Urban	11,119	807	0	11,926
Total	785,308	10,349	1,879	797,537

23c OTHER LIVESTOCK: Head Number of Other Livestock by Type of Livestock and District

District	Type of Livestock			
	Ducks	Turkeys	Donkeys	Other
Kibondo	11,786	0	7,963	0
Kasulu	4,493	592	1,972	2,171
Kigoma Rural	34,730	0	0	2,015
Kigoma Urban	773	0	0	0
Total	51,782	592	9,935	4,186

23d OTHER LIVESTOCK: Total Number of Households and Chicken Raised by Flock Size as of 1st October 2003

Flock Size	Chicken Rearing Households		Number of Chicken	Average Chicken per Household
	Number	%		
1 - 4	33,489	41.3	85,545	3
5 - 9	22,305	27.5	148,227	7
10 - 19	15,108	18.6	191,735	13
20 - 29	4,547	5.6	103,594	23
30 - 39	3,407	4.2	111,065	33
40 - 49	712	0.9	28,640	40
50 - 99	1,433	1.8	102,695	72
100+	137	0.2	26,036	190
Total	81,139	100.0	797,537	10

23e LIVESTOCK/POULTRY POPULATION TREND

Type of Livestock/Poultry	1995	1999	2003
Cattle	62,609	128,360	422,361
Improved Cattle		182	748
Goats	284,053	453,614	425,604
Sheep	25,717	42,768	51,805
Pigs	2,041	12,433	23,698
Indigenous Chicken	469,080	751,328	785,305
Layers	882	1,090	10,349
Broilers		10,159	1,879
Total Chickens	469,962	1,399,934	797,537

FISH FARMING

28.1 FISH FARMING: Number of Agricultural Households involved in Fish Farming and District, 2002/03 Agricultural Year

District	Agricultural Households Doing Fish Farming		Agricultural Households NOT Doing Fish Farming		Total
	Number	%	Number	%	
Kibondo	0	0.0	51,407	100.0	51,407
Kasulu	193	0.2	79,203	99.8	79,396
Kigoma Rural	0	0.0	62,470	100.0	62,470
Kigoma Urban	0	0.0	2,492	100.0	2,492
Total	193	0.1	195,572	99.9	195,765

28.2 FISH FARMING: Number of Agricultural Households By System of Farming and District during the 2002/03 Agricultural Year

District	Fish Farming System	
	Dug out Pond	Total
Kasulu	193	193
Total	193	193

28.3 FISH FARMING: Number of Agricultural Households By Source of Fingerlings and District during the 2002/03 Agricultural Year

District	Source of Fingerling	
	NGOs / Project	Total
Kasulu	99	99
Total	99	99

28.4 FISH FARMING: Number of Agricultural Households By Location of Selling Fish and District during the 2002/03 Agricultural Year

District	Did not Sell	
	Number	Total
Kasulu	193	193
Total	193	193

28.5 FISH FARMING: Total Number of Fish Harvested by Type and District, 2002/03 Agricultural Year

District	Number of Tilapia	Number of Carp	Number of Others
Kasulu	4,825	0	0
Total	4,825	0	0

LIVESTOCK EXTENSION

29.1a LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension by District During the 2002/03 Agricultural Year

District	Received Livestock Advice		Did Not Receive Livestock Advice		Total	Total Number of households raising livestock
	Number	%	Number	%		
Kibondo	14,181	27.6	37,226	72.4	51,407	5,181.1
Kasulu	13,712	17.3	65,685	82.7	79,396	14,722.0
Kigoma Rural	27,235	43.6	35,235	56.4	62,470	1,739.7
Kigoma Urban	1,123	45.1	1,369	54.9	2,492	67.8
Total	56,251	28.7	139,514	71.3	195,765	21,710.5

29.1b LIVESTOCK EXTENSION SERVICE PROVIDERS: Number of Agricultural Households By Source of Extension Services and District during the 2002/03 Agricultural Year

District	Source of extension advice											
	Government		NGO / Development Project		Co-operative		Large Scale Farmer		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kibondo	3,238	100	0	0	0	0	0	0	0	0	3,238	100
Kasulu	5,675	94	195	3	0	0	197	3	0	0	6,066	100
Kigoma Rural	17,002	100	0	0	0	0	0	0	0	0	17,002	100
Kigoma Urban	858	100	0	0	0	0	0	0	0	0	858	100
Total	26,772	99	195	1	0	0	197	1	0	0	27,164	100

29.2 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Feeds and Proper Feeding By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Feeds and Proper Feeding			Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Total		
Kibondo	3,238	0	3,238	5,181	62
Kasulu	5,675	195	5,869	14,722	40
Kigoma Rural	1,230	0	1,230	1,740	71
Kigoma Urban	858	0	858	68	1,267
Total	26,772	195	26,967	21,711	124
%	99.3	0.7	100.0		

29.3 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Housing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Housing				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Total		
Kibondo	4,300	204	133	4,638	5,181	89.5
Kasulu	7,047	0	389	7,436	14,722	50.5
Kigoma Rural	1,268	0	0	1,268	1,740	72.9
Kigoma Urban	48	0	0	48	68	70.8
Total	38,651	204	522	13,390	21,711	61.7
%	288.7	1.5	3.9	100.0		

29.4 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Proper Milking By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Proper Milking				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	Total		
Kibondo	1,276	204	0	1,480	5,181	28.6
Kasulu	1,178	0	0	1,178	14,722	8.0
Kigoma Rural	1,340	0	0	1,340	1,740	77.0
Kigoma Urban	33	0	0	33	68	49.4
Total	8,309	204	0	8,513	21,711	39
%	97.6	2.4	0.0	100.0		

29.5 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Milk Hygiene By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Milk Hygiene			Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Total		
Kibondo	1,045	102	1,148	5,181	22.2
Kasulu	1,965	0	1,965	14,722	13.3
Kigoma Rural	1,100	0	1,100	1,740	63.2
Kigoma Urban	33	0	33	68	49.4
Total	8,880	102	8,983	21,711	41.4
%	98.9	1.1	100.0		

29.6 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Disease Control By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Disease Control				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Kibondo	523	204	102	830	5,181	16.0
Kasulu	11,355	0	0	11,355	14,722	77.1
Kigoma Rural	987	293	0	1,280	1,740	73.6
Kigoma Urban	43	0	0	43	68	63.5
Total	12,908	497	102	13,508	21,711	62.2
%	95.6	3.7	0.8	100.0		

29.7 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Herd /Flock Size and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Herd/Flock Size				Total Number of households raising livestock	% receiving advice out of total
	Government	Co-operative	Large Scale Farmer	Total		
Kibondo	1,173	0	0	1,173	5,181	22.6
Kasulu	1,964	0	0	1,964	14,722	13.3
Kigoma Rural	1,250	137	0	1,387	1,740	79.7
Kigoma Urban	39	0	0	39	68	57.6
Total	15,318	137	0	15,456	21,711	71.2
%	99.1	0.9	0.0	100.0		

29.8 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Pasture Establishment and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Pasture Establishment and Selection				Total	Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	not applicable			
Kibondo	923	0	0	0	923	5,181	17.8
Kasulu	3,735	0	0	0	3,735	14,722	25.4
Kigoma Rural	1,300	0	137	0	1,437	1,740	82.6
Kigoma Urban	12	0	0	0	12	68	17.7
Total	11,280	0	137	0	6,107	21,711	28.1
%	184.7	0.0	2.2	0.0	100.0		

29.9 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Group Formation and Strengthening By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Group Formation and Strengthening				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	not applicable	Total		
Kibondo	540	133	0	673	5,181	13.0
Kasulu	4,321	0	196	4,516	14,722	30.7
Kigoma Rural	1,460	137	0	1,597	1,740	91.8
Kigoma Urban	31	0	0	31	68	45.8
Total	6,352	270	196	6,818	21,711	31.4
%	93.2	4.0	2.9	100.0		

29.10 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Calf Rearing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Calf Rearing				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	Total		
Kibondo	1,388	267	0	1,654	5,181	32
Kasulu	4,118	0	0	4,118	14,722	28
Kigoma Rural	1,503	137	0	1,640	1,740	94
Kigoma Urban	0	0	0	0	68	0
Total	12,963	404	0	13,367	21,711	62
%	97.0	3.0	0.0	100.0		

29.11 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Use of Improved Bulls By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Improved Bulls				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Kibondo	216	133	0	350	5,181	7
Kasulu	4,315	0	0	4,315	14,722	29
Kigoma Rural	1,500	0	137	1,637	1,740	94
Kigoma Urban	37	0	0	37	68	55
Total	17,679	133	137	17,949	21,711	83
%	98.5	0.7	0.8	100.0		

29.12 LIVESTOCK EXTENSION: Number of Agricultural Households By Quality of Extension Services and District, 2002/03 Agricultural Year

District	Quality of Service										Total
	Very Good		Good		Average		Poor		No Good		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kibondo	1,691	9	10,187	54	5,027	27	876	5	928	5	18,709
Kasulu	2,725	20	6,457	46	3,726	27	590	4	395	3	13,892
Kigoma Rural	9,181	34	12,099	45	5,495	21	0	0	0	0	26,775
Kigoma Urban	237	20	458	38	498	42	0	0	0	0	1,192
Total	13,834	23	29,200	48	14,746	24	1,466	2	1,323	2	60,568

ACCESS TO INFRASTRUCTURE AND OTHER SERVICES

33.01a ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Mean Distances from Household Dwellings to Infrastructures and Services by Districts

District	Mean Distance to										
	Secondary Schools	Primary Schools	All weather roads	Feeder Roads	Hospitals	Health Clinics	District Capital	Primary Markets	Secondary Market	Tertiary Market	Tarmac Roads
Kibondo	17.8	1.8	2.0	1.3	37.7	9.1	224.3	4.7	20.8	19.0	105.5
Kasulu	24.7	1.3	15.0	1.1	42.2	4.3	108.6	8.0	22.4	31.3	90.3
Kigoma Rural	23.6	1.7	7.3	3.9	72.5	4.4	81.8	5.1	11.5	26.1	70.9
Kigoma Urban	3.8	1.2	0.8	0.3	7.0	1.7	7.6	3.5	17.8	5.8	5.2
Total	22.3	1.5	9.0	2.0	50.3	5.6	129.1	6.1	18.4	26.1	87.0

District Capital	129.1
Tarmac Roads	87.0
Tertiary Market	26.1
Hospitals	50.3
Secondary Schools	22.3
Secondary Market	18.4
Primary Markets	6.1
Health Clinics	5.6
All weather roads	9.0
Primary Schools	1.5
Feeder Roads	2.0

33.01b ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households By Distance to Secondary School by District for 2002/03 agriculture year

District	Distance to Secondary School										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	1,078		4,193		16,963		8,579		20,594		51,407	18
Kasulu	970		3,521		16,810		19,781		38,314		79,396	25
Kigoma Rural	8,450		5,889		11,753		8,489		27,890		62,470	24
Kigoma Urban	171		1,032		1,256		32		0		2,492	4
Total	10,669		14,635		46,782		36,881		86,798		195,765	22

33.01c ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households By Distance to All Weather Road by District for 2002/03 agriculture year

District	Distance to All Weather Road										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	21,057	41.0	19,816	38.5	8,833	17.2	1,599	3.1	102	0.2	51,407	2.0
Kasulu	16,456	20.7	16,151	20.3	16,862	21.2	3,150	4.0	26,777	33.7	79,396	15.0
Kigoma Rural	29,597	47.4	10,297	16.5	15,771	25.2	1,953	3.1	4,852	7.8	62,470	7.3
Kigoma Urban	1,919	77.0	340	13.7	233	9.3	0	0.0	0	0.0	2,492	0.8
Total	69,029	35.3	46,604	23.8	41,699	21.3	6,702	3.4	31,732	16.2	195,765	9.0

33.01d ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Feeder Road by District for 2002/03 agriculture year

District	Distance to Feeder Road										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	31,046	60.4	17,651	34.3	2,241	4.4	0	0.0	470	0.9	51,407	1.3
Kasulu	46,270	58.3	28,823	36.3	1,367	1.7	2,936	3.7	0	0.0	79,396	1.1
Kigoma Rural	40,997	65.6	14,070	22.5	3,992	6.4	2,492	4.0	918	1.5	62,470	3.9
Kigoma Urban	2,252	90.4	240	9.6	0	0.0	0	0.0	0	0.0	2,492	0.3
Total	120,565	61.6	60,784	31.0	7,600	3.9	5,429	2.8	1,388	0.7	195,765	2.0

33.01e ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households By Distance to Hospital by District for 2002/03 agriculture year

District	Distance to hospital										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	605	1.2	1,845	3.6	6,962	13.5	7,288	14.2	34,707	67.5	51,407	37.7
Kasulu	585	0.7	987	1.2	9,019	11.4	7,625	9.6	61,180	77.1	79,396	42.2
Kigoma Rural	1,118	1.8	1,910	3.1	3,015	4.8	4,210	6.7	52,218	83.6	62,470	72.5
Kigoma Urban	69	2.8	0	0.0	2,254	90.5	169	6.8	0	0.0	2,492	7.0
Total	2,376	1.2	4,741	2.4	21,250	10.9	19,292	9.9	148,106	76	195,765	50.3

33.01f ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Health Clinic by District for 2002/03 agricultural year

District	Health clinic										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	7,703	15.0	24,587	47.8	14,941	29.1	3,113	6.1	1,063	2.1	51,407	9.1
Kasulu	12,538	15.8	35,541	44.8	21,716	27.4	5,064	6.4	4,538	5.7	79,396	4.3
Kigoma Rural	19,232	30.8	24,686	39.5	9,155	14.7	5,417	8.7	3,979	6.4	62,470	4.4
Kigoma Urban	830	33.3	1,327	53.2	335	13.5	0	0.0	0	0.0	2,492	1.7
Total	40,302	20.6	86,142	44.0	46,147	23.6	13,594	6.9	9,581	4.9	195,765	5.6

33.01g ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by distance to Primary School for 2002/03 agriculture year

District	Distance to Primary School										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	12,687	24.7	30,228	58.8	7,995	15.6	263	0.5	235	0.5	51,407	1.8
Kasulu	24,153	30.4	46,470	58.5	8,773	11.0	0	0.0	0	0.0	79,396	1.3
Kigoma Rural	25,253	40.4	28,598	45.8	6,940	11.1	1,374	2.2	306	0.5	62,470	1.7
Kigoma Urban	998	40.0	1,298	52.1	196	7.9	0	0.0	0	0.0	2,492	1.2
Total	63,091	32.2	106,593	54.4	23,904	12.2	1,636	0.8	541	0.3	195,765	1.5

33.01h ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Regional Capital by District for 2002/03 agriculture year

District	Distance to Regional Capital										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	255	0.5	0	0.0	265	0.5	132	0.3	50,756	98.7	51,407	224.3
Kasulu	194	0.2	0	0.0	592	0.7	197	0.2	78,413	98.8	79,396	108.6
Kigoma Rural	0	0.0	0	0.0	308	0.5	4,365	7.0	57,797	92.5	62,470	81.8
Kigoma Urban	69	2.8	0	0.0	2,090	83.9	333	13.4	0	0.0	2,492	7.6
Total	518	0.3	0	0.0	3,256	1.7	5,027	2.6	186,965	95.5	195,765	129.1

33.01i ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to District Capital by District for 2002/03 agriculture year

District	Distance to District Capital										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	775	1.5	1,443	2.8	6,276	12.2	5,048	9.8	37,865	73.7	51,407	38.3
Kasulu	197	0.2	197	0.2	2,762	3.5	8,415	10.6	67,825	85.4	79,396	46.1
Kigoma Rural	154	0.2	0	0.0	155	0.2	4,365	7.0	57,796	92.5	62,470	79.7
Kigoma Urban	34	1.4	32	1.3	1,435	57.6	990	39.7	0	0.0	2,492	9.7
Total	1,161	0.6	1,672	0.9	10,628	5.4	18,818	9.6	163,486	83.5	195,765	54.3

33.01j ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Tarmac Road by District for 2002/03

District	Tarmac Road										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	12,471	24.3	129	0.3	0	0.0	0	0.0	38,807	75.5	51,407	105.5
Kasulu	15,257	19.2	0	0.0	0	0.0	0	0.0	64,140	80.8	79,396	90.3
Kigoma Rural	6,807	10.9	1,851	3.0	2,381	3.8	442	0.7	50,988	81.6	62,470	70.9
Kigoma Urban	69	2.8	359	14.4	1,861	74.7	203	8.2	0	0.0	2,492	5.2
Total	34,603	17.7	2,340	1.2	4,242	2.2	646	0.3	153,934	78.6	195,765	87.0

33.01k ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Primary Market by District for 2002/03 agricultural year

District	Primary Market										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	9,798	19.1	19,193	37.3	19,981	38.9	2,303	4.5	131	0.3	51,407	4.7
Kasulu	15,722	19.8	31,794	40.0	13,111	16.5	5,700	7.2	13,069	16.5	79,396	8.0
Kigoma Rural	26,407	42.3	11,341	18.2	15,459	24.7	5,004	8.0	4,260	6.8	62,470	5.1
Kigoma Urban	611	24.5	306	12.3	1,543	61.9	32	1.3	0	0.0	2,492	3.5
Total	52,539	26.8	62,635	32.0	50,094	25.6	13,038	6.7	17,460	8.9	195,765	6.1

33.01l ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Tertiary Market by District for 2002/03 agricultural year

District	Tertiary Market										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	5,689	11.1	3,709	7.2	11,483	22.3	8,496	16.5	22,030	42.9	51,407	19.0
Kasulu	1,579	2.0	197	0.2	7,691	9.7	12,925	16.3	57,004	71.8	79,396	31.3
Kigoma Rural	6,069	9.7	4,654	7.4	13,236	21.2	7,415	11.9	31,096	49.8	62,470	26.1
Kigoma Urban	0	0.0	100	4.0	2,258	90.6	100	4.0	33	1.3	2,492	5.8
Total	13,337	6.8	8,661	4.4	34,668	17.7	28,937	14.8	110,164	56.3	195,765	26.1

33.01m ACCESS TO INFRASTRUCTURE AND OTHER SERVICES: Number of Households by Distance to Secondary Market by District for 2002/03 agricultural year

District	Secondary Market										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Kibondo	16,133	31.4	0	0.0	131	0.3	28,050	54.6	7,092	13.8	51,407	20.8
Kasulu	16,898	21.3	2,171	2.7	2,333	2.9	27,051	34.1	30,943	39.0	79,396	22.4
Kigoma Rural	17,077	27.3	5,535	8.9	2,328	3.7	33,432	53.5	4,099	6.6	62,470	11.5
Kigoma Urban	32	1.3	0	0.0	0	0.0	2,396	96.2	64	2.6	2,492	17.8
Total	50,140	25.6	7,706	3.9	4,792	2.4	90,929	46.4	42,197	21.6	195,765	18.4

33.19a TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Veterinary Clinic and District, 2002/03
Agricultural Year

District	Satisfaction of Using Veterinary Clinic										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Ukerewe	139	1	12,959	58	8,463	38	827	4	250	1	22,388
Magu	3,612	6	13,447	22	19,052	31	24,642	41	8,880	15	60,753
Kwimba	600	3	4,290	22	5,008	26	9,418	49	4,680	24	19,316
Sengerema	743	4	6,065	36	4,783	28	5,397	32	432	3	16,989
Geita	5,428	14	1,476	4	3,254	8	29,081	74	33,566	86	39,239
Missungwi	2,672	18	4,312	29	6,866	47	857	6	10,344	70	14,708
Ilemela	224	6	1,310	35	700	19	1,461	40	333	9	3,695
Total	13,417	8	43,860	25	48,127	27	71,684	40	58,486	33	177,089

33.19b TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Extension Centre and District, 2002/03
Agricultural Year

District	Extension Centre										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Kibondo	264	6.3	3,099	73.8	530	12.6	307	7.3	0	0.0	4,200
Kasulu	194	1.0	6,466	34.3	8,851	46.9	3,154	16.7	197	1.0	18,863
Kigoma Rural	2,008	16.8	2,941	24.6	7,015	58.6	0	0.0	0	0.0	11,964
Kigoma Urban	69	18.6	301	81.4	0	0.0	0	0.0	0	0.0	370
Total	2,535	7.2	12,807	36.2	16,396	46.3	3,460	9.8	197	0.6	35,396

33.19c TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Research Station and District, 2002/03
Agricultural Year

District	Research Station										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Kibondo	0	0.0	0	0.0	0	0.0	409	100.0	0	0.0	409
Kasulu	192	3.2	0	0.0	782	12.8	4,926	80.8	195	3.2	6,095
Kigoma Rural	0	0.0	0	0.0	1,267	90.2	0	0.0	137	9.8	1,404
Kigoma Urban	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Total	192	2.4	0	0.0	2,049	25.9	5,335	67.5	332	0.0	7,907

33.19d TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Plant Protection Lab. and District, 2002/03 Agricultural Year

District	Plant Protection Lab										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Kibondo	443	46	102	11	0	0	409	43	0	0	955
Kasulu	1,577	22	0	0	977	13	4,534	62	195	3	7,283
Kigoma Rural	0	0	0	0	411	100	0	0	0	0	411
Kigoma Urban	2,021	23	102	1	1,388	16	4,943	57	195	2	8,648
Total	4,042	91	204	12	2,776	129	9,885	162	390	5	17,297

33.19e TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Land Registration Office and District, 2002/03 Agricultural Year

District	Land Registration Office										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Kibondo	133	6.4	877	42.1	531	25.5	542	26.0	0	0.0	2,082
Kasulu	395	5.2	395	5.2	2,144	28.0	4,341	56.7	385	5.0	7,660
Kigoma Rural	602	14.3	154	3.7	3,002	71.1	463	11.0	0	0.0	4,220
Kigoma Urban	0	0.0	69	22.6	201	66.1	0	0.0	34	11.3	304
Total	1,129	7.9	1,495	10.5	5,877	41.2	5,345	37.5	420	2.9	14,266

33.19f TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Livestock development Centre and District, 2002/03 Agricultural Year

District	Livestock Development Centre										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Kibondo	0	0.0	0	0.0	0	0.0	409	100.0	0	0.0	409
Kasulu	0	0.0	0	0.0	977	18.4	4,341	81.6	0	0.0	5,318
Kigoma Rural	0	0.0	0	0.0	429	47.9	307	34.2	160	17.9	896
Kigoma Urban	32	19.1	69	41.2	66	39.7	0	0.0	0	0.0	166
Total	32	0.5	69	1.0	1,472	21.7	5,057	74.5	160	2.4	6,789

HOUSEHOLD FACILITIES

34.1 HOUSEHOLD FACILITIES: Number of Agriculture Households by Type of Toilet and District During the 2002/03 Agriculture Year

District	Type of toilet				
	No Toilet	Flush Toilet	Traditional Pit Latrine	Improved Pit Latrine - hh Owned	Total number of households
Kibondo	3,277	765	47,114	251	51,407
Kasulu	984	3,354	74,669	389	79,396
Kigoma Rur	1,070	0	60,934	466	62,470
Kigoma Urb	64	0	2,297	131	2,492
Total	5,396	4,119	185,014	1,237	195,765
%	2.8	2.1	94.5	0.6	100.0

34.2 HOUSEHOLD FACILITIES: Number of households reporting average number of rooms and type of Roofing Materials by District, 2002/03 Agricultural Year

District	Average Number of rooms per Household	Iron Sheets	Tiles	Concrete	Asbestos	Grass / Leaves	Grass & Mud	Other	Total number of households
Kibondo	3	14,553	661	0	0	31,178	4,749	267	51,407
Kasulu	3	21,150	2,552	789	985	43,597	10,323	0	79,396
Kigoma Rur	3	17,101	634	158	0	44,097	480	0	62,470
Kigoma Urb	3	873	0	0	0	1,459	161	0	2,492
Total	3	53,676	3,847	947	985	120,330	15,713	267	195,765
%		27.4	2.0	0.5	0.5	61.5	8.0	0.1	100.0

34.3 HOUSEHOLD FACILITIES: Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural Year

Type of Owned Asset	District									
	Kibondo		Kasulu		Kigoma Rural		Kigoma Urban		Total	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Radio	25,293		45,474		42,190		1,502		114,459	
Landline phone	0		0		0		32		32	
Mobile phone	133		395		776		101		1,404	
Iron	4,354		7,805		10,743		635		23,536	
Wheelbarrow	639		3,547		1,231		33		5,450	
Bicycle	19,752		41,309		25,410		423		86,895	
Vehicle	217		394		0		67		678	
Television / Video	248		395		464		32		1,138	
Total Number of Households	50,636		99,319		80,814		2,825		233,592	

34.5 HOUSEHOLD FACILITIES: Number of Agricultural Households by Main Source of Energy Used for Lighting during 2002/03 Agricultural Year

Main Source of Energy for Lighting	District								Total	
	Kibondo		Kasulu		Kigoma Rural		Kigoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Mains Electricity	133	37.2	192	53.6	0	0.0	32	8.9	358	100.0
Solar	133	100.0	0	0.0	0	0.0	0	0.0	133	100.0
Gas (Biogas)	0	0.0	0	0.0	137	100.0	0	0.0	137	100.0
Hurricane Lamp	3,243	13.8	5,686	24.1	13,804	58.5	846	3.6	23,580	100.0
Pressure Lamp	988	12.0	5,087	62.0	2,036	24.8	100	1.2	8,210	100.0
Wick Lamp	41,676	27.1	64,105	41.7	46,344	30.2	1,514	1.0	153,640	100.0
Candles	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Firewood	5,233	53.9	4,326	44.6	148	1.5	0	0.0	9,707	100.0
Total	51,406	26.3	79,396	40.6	62,469	31.9	2,492	1.3	195,765	100.0

34.6 HOUSEHOLD FACILITIES: Number of Agricultural Households by Main Source of Energy Used for Cooking during 2002/03 Agricultural Year

Main Source of Energy for Cooking	District								Total	
	Kibondo		Kasulu		Kigoma Rural		Kigoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Mains Electricity	204	100.0	0	0.0	0	0.0	0	0.0	204	100.0
Solar	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Gas (Biogas)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bottled Gas	0	0.0	197	100.0	0	0.0	0	0.0	197	100.0
Parraffin / Kerocine	132	27.0	196	40.2	160	32.8	0	0.0	488	100.0
Charcoal	1,334	23.1	1,755	30.4	2,009	34.8	673	11.7	5,772	100.0
Firewood	49,604	26.4	76,270	40.6	60,301	32.1	1,819	1.0	187,993	100.0
Crop Residues	133	14.6	780	85.3	0	0.0	0	0.0	914	100.0
Livestock Dung	0	0.0	197	100.0	0	0.0	0	0.0	197	100.0
Total	51,203	26.2	79,395	41	62,470	32	2,492	1.3	195,561	100.0

34.7 HOUSEHOLD FACILITIES: Number of Agricultural Households by Main Source of Drinking Water by Season (LONG and Short) and District during 2002/03 Agricultural Year

Source	Season	District				Total
		Kibondo	Kasulu	Kigoma rural	Kigoma Urban	
Piped Water	wet season	4,462	27,748	14,032	686	46,928
	dry season	3,584	23,421	13,259	652	40,916
Protected Well	wet season	9,447	17,445	3,261	135	30,287
	Dry season	9,692	17,445	3,421	135	30,693
Protected / Covered Spring	wet season	9,248	11,226	6,620	485	27,580
	Dry season	9,747	11,226	6,620	485	28,078
Uprotected Well	wet season	1,419	6,478	8,363	470	16,731
	Dry season	1,419	7,660	5,288	504	14,872
Unprotected Spring	wet season	17,033	10,223	6,279	391	33,926
	Dry season	17,165	11,999	7,041	391	36,596
Surface Water (Lake / Dam / River / Stream)	wet season	9,799	4,106	22,995	294	37,194
	Dry season	9,799	5,476	26,529	294	42,098
Covered Rainwater Catchment	wet season	0	0	0	32	32
	Dry season	0	0	0	32	32
Uncovered Rainwater Catchment	wet season	0	393	608	0	1,001
	Dry season	0	393	0	0	393
Water Vendor	wet season	0	0	0	0	0
	Dry season	0	0	0	0	0
Tanker Truck	wet season	0	0	0	0	0
	Dry season	0	0	0	0	0
Bottled Water	wet season	0	0	0	0	0
	Dry season	0	0	0	0	0
Other	wet season	0	1,776	311	0	2,087
	dry season	0	1,776	311	0	2,087
Total Agricultural Households per District		102,814	158,793	124,940	4,984	391,531

34.8 HOUSEHOLD FACILITIES: Proportion of Agricultural Households by Main Source of Drinking Water by Season (LONG and Short) and District during 2002/03 Agricultural Year

Source	Season	District				Total
		Kibondo	Kasulu	Kigoma rural	Kigoma Urban	
Piped Water	wet season	0.0	0.3	0.1	0.0	0.5
	dry season	0.0	0.2	0.1	0.0	0.4
Protected Well	wet season	0.1	0.2	0.0	0.0	0.3
	Dry season	0.1	0.2	0.0	0.0	0.3
Protected / Covered Spring	wet season	0.1	0.1	0.1	0.0	0.3
	Dry season	0.1	0.1	0.1	0.0	0.3
Uprotected Well	wet season	0.0	0.1	0.1	0.0	0.2
	Dry season	0.0	0.1	0.1	0.0	0.1
Unprotected Spring	wet season	0.2	0.1	0.1	0.0	0.3
	Dry season	0.2	0.1	0.1	0.0	0.4
Surface Water (Lake / Dam / River / Stream)	wet season	0.1	0.0	0.2	0.0	0.4
	Dry season	0.1	0.1	0.3	0.0	0.4
Covered Rainwater Catchment	wet season	0.0	0.0	0.0	0.0	0.0
	Dry season	0.0	0.0	0.0	0.0	0.0
Uncovered Rainwater Catchment	wet season	0.0	0.0	0.0	0.0	0.0
	Dry season	0.0	0.0	0.0	0.0	0.0
Water Vendor	wet season	0.0	0.0	0.0	0.0	0.0
	Dry season	0.0	0.0	0.0	0.0	0.0
Tanker Truck	wet season	0.0	0.0	0.0	0.0	0.0
	Dry season	0.0	0.0	0.0	0.0	0.0
Bottled Water	wet season	0.0	0.0	0.0	0.0	0.0
	Dry season	0.0	0.0	0.0	0.0	0.0
Other	wet season	0.0	0.0	0.0	0.0	0.0
	dry season	0.0	0.0	0.0	0.0	0.0

34.9 HOUSEHOLD FACILITIES: Number of Households Reporting Time Spent to and from

Time Spent to and from Main Source of Drinking Water	Season	District			
		Kibondo	Kasulu	Kigoma rural	KigomaUrban
Less than 10	wet season	561	589	3,193	0
	Dry season	571	980	3,038	0
10 - 19 Minutes	wet season	10,847	17,993	13,066	543
	Dry season	10,355	15,436	11,450	543
20 - 29 Minutes	wet season	5,767	10,761	13,316	260
	Dry season	5,462	11,548	10,503	226
30 - 39 Minutes	wet season	16,940	18,436	11,184	398
	Dry season	16,389	19,223	11,532	398
40 - 49 Minutes	wet season	3,511	5,113	5,132	198
	Dry season	3,636	5,507	5,443	164
50 - 59 Minutes	wet season	2,919	7,465	4,039	169
	Dry season	3,015	6,679	3,735	169
above one Hour	wet season	10,863	19,039	12,539	923
	Dry season	11,980	20,024	16,769	992

34.11 HOUSEHOLD FACILITIES: Number of Agricultural Households by Number of Meals the Household Normally Took per Day by District

Number of Meals per Day	District								Total	
	Kibondo		Kasulu		Kigoma rural		Kigoma urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
One	3,623	7.0	1,174	1.5	1,719	2.2	0	0.0	6,516	3.3
Two	43,566	84.7	66,132	83.3	45,956	57.9	1,854	2.3	157,507	80.5
Three	4,219	8.2	11,897	15.0	14,646	18.4	638	0.8	31,399	16.0
Four	0	0.0	194	0.2	149	0.2	0	0.0	343	0.2
Total	51,407	100.0	79,396	100.0	62,470	78.7	2,492	3.1	195,765	100.0

34.12 HOUSEHOLD FACILITIES: Number of Households by Number of Days the Household Consumed Meat during the Preceding Week by District

Number of Days	District								Total	
	Kibondo		Kasulu		Kigoma rural		Kigoma urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	32,352	63	48,385	61	22,564	36	1,326	53	104,627	53
One	12,369	24	21,188	27	24,191	39	968	39	58,716	30
Two	5,185	10	6,288	8	8,578	14	131	5	20,183	10
Three	1,115	2	2,548	3	5,886	9	67	3	9,616	5
Four	254	0	197	0	626	1	0	0	1,077	1
Five	132	0	0	0	315	1	0	0	447	0
Six	0	0	592	1	160	0	0	0	752	0
Seven	0	0	197	0	149	0	0	0	346	0
Total	51,407	100	79,396	100	62,470	100	2,492	100	195,765	100

34.13 HOUSEHOLD FACILITIES: Number of Households by Number of Days the Household Consumed Fish during the Preceding Week by District

Number of Days	District								Total	
	Kibondo		Kasulu		Kigoma rural		Kigoma urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	38,205	50	34,245	45	4,293	6	170	0	76,913	100
One	7,878	21	21,191	56	8,234	22	532	1	37,834	100
Two	4,147	17	12,961	52	7,367	29	527	2	25,002	100
Three	650	5	4,508	33	7,855	58	559	4	13,572	100
Four	264	1	4,717	24	14,526	73	466	2	19,973	100
Five	133	1	984	10	8,860	87	203	2	10,180	100
Six	0	0	394	6	6,057	94	0	0	6,452	100
Seven	131	2	395	7	5,279	90	34	1	5,839	100
Total	51,408	26	79,395	41	62,471	32	2,491	1	195,765	100

34.14 HOUSEHOLD FACILITIES: Number of Households Reporting the Status of Food Satisfaction of the Household during the Preceding Year by District

Status of Food Satisfaction	District								Total	
	Kibondo		Kasulu		Kigoma rural		Kigoma urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Never	20,135	16	54,164	44	48,571	39	1,262	1	124,132	100
Seldom	14,780	35	18,821	44	7,942	19	933	2	42,476	100
Sometimes	6,366	43	3,898	26	4,397	30	199	1	14,859	100
Often	5,036	77	965	15	474	7	98	1	6,573	100
Always	5,089	66	1,550	20	1,086	14	0	0	7,725	100
Total	51,406	26	79,398	41	62,470	32	2,492	1	195,765	100

34.15 HOUSEHOLD FACILITIES: Number of Households by Type of Roofing Materials and District during the 2002/03 Agricultural Year

Roofing Materials	District								Total	
	Kibondo		Kasulu		Kigoma rural		Kigoma urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Iron Sheets	14,553	27	21,150	39	17,101	32	873	2	53,676	100
Tiles	661	17	2,552	66	634	16	0	0	3,847	100
Concrete	0	0	789	83	158	17	0	0	947	100
Asbestos	0	0	985	100	0	0	0	0	985	100
Grass / Leaves	31,178	26	43,597	36	44,097	37	1,459	1	120,330	100
Grass & Mud	4,749	30	10,323	66	480	3	161	1	15,712	100
Other	267	100	0	0	0	0	0	0	267	100
Total	51,408	26	79,396	41	62,470	32	2,493	1	195,764	100

34.16 HOUSEHOLD FACILITIES: Number of Households by Main Source of Cash Income and District during 2002/03 Agriculture Year

Main Source of Energy for Cooking	District								Total	
	Kibondo		Kasulu		Kigoma rural		Kigoma urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Sales of Food Crops	27,253	22	59,394	47	38,147	30	818	1	125,612	100
Sale of Livestock	1,842	54	778	23	789	23	0	0	3,409	100
Sale of Livestock Products	623	39	197	12	788	49	0	0	1,608	100
Sales of Cash Crops	132	1	3,935	38	6,088	60	69	1	10,224	100
Sale of Forest Products	2,967	56	1,376	26	933	18	32	1	5,309	100
Business Income	3,816	33	2,342	20	4,933	42	596	5	11,688	100
Wages & Salaries in Cash	1,928	32	1,561	26	2,327	39	204	3	6,020	100
Other Casual Cash Earnings	10,056	55	6,087	33	1,968	11	339	2	18,450	100
Cash Remittance	1,777	40	587	13	2,023	46	34	1	4,421	100
Fishing	0	0	1,574	25	4,322	69	331	5	6,227	100
Other	257	21	777	62	150	12	68	5	1,252	100
Total	50,650	26	78,608	40	62,468	32	2,491	1	194,220	100

APPENDIX III QUESTIONNAIRES

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Page Number

Agriculture Sample Census 2002/03



ACLF 1: Sub-village leader listing form

Region _____ Code <input style="width:30px;" type="text"/>	Ward _____ Code <input style="width:30px;" type="text"/>
District _____ Code <input style="width:30px;" type="text"/>	Village _____ Code <input style="width:30px;" type="text"/>

Name of Village Chairman:.....

Sub-village leader number	Name of sub-village leader	Number of households		Comments
		From office register	After enumeration	
(1)	(2)	(3)	(4)	(5)
<input style="width:30px;" type="text"/>		<input style="width:30px;" type="text"/>	<input style="width:30px;" type="text"/>	
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<input style="width:30px;" type="text"/>		<input style="width:30px;" type="text"/>	<input style="width:30px;" type="text"/>	
Total		<input style="width:30px;" type="text"/>	<input style="width:30px;" type="text"/>	

Name of enumerator..... Signature Date.....

Name of supervisor..... Signature Date.....

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Interval
Starting point

Page Number.....

Agriculture Sample Census 2002/03

ACL: 2 Household listing form - form for listing household heads and their agriculture activities

Region _____	Code <input style="width:20px" type="text"/>	Name of Sub-village Leaaader _____
District _____	Code <input style="width:20px" type="text"/>	Subvillage leader code <input style="width:30px" type="text"/>
Ward _____	Code <input style="width:30px" type="text"/>	
Village _____	Code <input style="width:30px" type="text"/>	

Household Number	Household head name	Number of										✓ if the respondent qualifies to be a farmer *	Farmer Serial Numbers
		Fields +	Cattle				Goats	Sheep	Pigs	poultry/ducks	Rabbit		
			Total Number	Adult male cattle	Adult female cattle	Calves							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
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<input style="width:20px" type="text"/>													
Totals													

* **NOTE:** (Column 13) Place a "✓" if the household has at least 1 field over 25m² and/or keeps at least 1 Cow, 5 Goats/Sheep/Pigs or 50 Chicken/poultry or ducks
 + (Column 3) A field must be at least 25 m²

Name of enumerator..... Signature Date.....
 Name of supervisor..... Signature Date.....

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National Agriculture Sample Census 2002/03

ACLF: 3 Household listing of 15 selected farmers

Region _____
 District _____
 Ward _____
 Village _____

Code
 Code
 Code
 Code






S/N	Sub village leader number		Name of sub-village leader	Agriculture hh serial number	Name of selected head of household	Number of							
	(1)	(2)				(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01				<input type="text"/> <input type="text"/> <input type="text"/>									
02				<input type="text"/> <input type="text"/> <input type="text"/>									
03				<input type="text"/> <input type="text"/> <input type="text"/>									
04				<input type="text"/> <input type="text"/> <input type="text"/>									
05				<input type="text"/> <input type="text"/> <input type="text"/>									
06				<input type="text"/> <input type="text"/> <input type="text"/>									
07				<input type="text"/> <input type="text"/> <input type="text"/>									
08				<input type="text"/> <input type="text"/> <input type="text"/>									
09				<input type="text"/> <input type="text"/> <input type="text"/>									
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11				<input type="text"/> <input type="text"/> <input type="text"/>									
12				<input type="text"/> <input type="text"/> <input type="text"/>									
13				<input type="text"/> <input type="text"/> <input type="text"/>									
14				<input type="text"/> <input type="text"/> <input type="text"/>									
15				<input type="text"/> <input type="text"/> <input type="text"/>									

Name of Enumerator: _____ Signature _____ Date _____

Name of Supervisor _____ Signature _____ Date _____

Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of
 Cooperatives and Marketing and the National Bureau of Statistics

United Republic of Tanzania	
ACQ 1	
CONFIDENTIAL	
Small holder/Small Scale Farmer Questionnaire	
Agriculture Sample Census	
2002/2003	
	

Enumerator	Name	Signature													
	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> d d / m m / y y		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Hour</td> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Minutes</td> </tr> <tr> <td style="text-align: center;">Start time</td> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input type="text"/></td> </tr> <tr> <td style="text-align: center;">End time</td> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input type="text"/></td> </tr> </table>		Hour		Minutes	Start time	<input type="text"/>	<input type="text"/>	<input type="text"/>	End time	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Hour		Minutes												
Start time	<input type="text"/>	<input type="text"/>	<input type="text"/>												
End time	<input type="text"/>	<input type="text"/>	<input type="text"/>												
Field level checking by:			<i>To be completed by the supervisor ONLY after field/farm level checking of the enumeration process. This should be countersigned by the enumerator.</i>												
District Supervisor:	Name	signature		Date .. / .. / ..											
Regional Supervisor:	Name	signature		Date .. / .. / ..											
National Supervisor:	Name	signature		Date .. / .. / ..											
District checking in Office:			<i>All questionnaires must be checked at the district office.</i>												
District Supervisor	Name	signature		Date .. / .. / ..											
For Use at National Level only:			<i>See back page for details of query</i>												
Data Entered by	Name	signature		Date .. / .. / ..											
Queried	Name	signature		Date .. / .. / ..											

Executed by the Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development,
Ministry of Cooperatives and Marketing
and
National Bureau of Statistics

1.0 IDENTIFICATION DETAILS			
1.1 Location			
S/N	Location Name	Codes	
1.1.1	Region	<input type="text"/>	
1.1.2	District	<input type="text"/>	
1.1.3	Ward	<input type="text"/>	
1.1.4	Village	<input type="text"/>	
1.2 Details of the respondent and household head			
S/N		Codes	
1.2.1	Name & number of local leader	<input type="text"/>	
1.2.2	Name & number of household head	<input type="text"/>	
1.2.3	Sex of household head (Male = 1, Female = 2)	<input type="text"/>	
1.2.4	Name of respondent	/	
1.2.5	Relationship of Respondent to Household Head		
<p>Relationship to household head codes (Q 1.2.5) Head of Household.....1 Son/Daughter3 Grandson/Granddaughter5 Other (friend, employee, etc)...8 Spouse2 Father/Mother4 Other relative.....6</p>			
2.0 ACTIVITIES OF THE HOUSEHOLD			
2.1	Type of Agriculture Household	<input type="text"/>	
<p>Agriculture household codes(Q2.1) Crops only.....1 Livestock only2 Pastoralist.....3 Crops and Livestock4</p>			
2.2	Rank the following livelihood activities/source of income of the household in order of importance		
S/N	Livelihood/source of income activity.	Rank in order of importance 1=most 7=least	How important are each of these activities expressed in percentage.
	(1)	(2)	(3)
2.2.1	Annual Crop farming	<input type="text"/>	<input type="text"/> %
2.2.2	Permanent crop farming	<input type="text"/>	<input type="text"/> %
2.2.3	Livestock keeping/herding	<input type="text"/>	<input type="text"/> %
2.2.4	Off Farm Income	<input type="text"/>	<input type="text"/> %
2.2.5	Remittances	<input type="text"/>	<input type="text"/> %
2.2.6	Fishing/hunting and gathering	<input type="text"/>	<input type="text"/> %
2.2.7	Tree/forest resources (eg honey, firewood, timber,etc)	<input type="text"/>	<input type="text"/> %
			<input type="text"/> %

Definition and working page for page 1**General Definitions****Small holder hh/small scale farm:**

Should have between 25sq metres and 20 Hectares under production, and/or between 1 and 50 head of Cattle, and/or between 5 and 100 head of Sheep/Goats/Pigs, and/or between 50 and 1000 chickens/turkeys/ducks/rabbits.

Household: A group of people who occupy the whole or part of one or more housing units and makes joint provisions for food and/or other essentials for living.

Household Head: A person who is acknowledged by all other members of the household either by virtue of his age or standing in the household as the head. He/she should be a permanent resident of the house and he/she is the main person responsible for making decisions.

Agricultural Holding: This is an economic unit of agricultural production under single management. It consists of all livestock kept and all land used for agricultural production without regard to title. For the purpose of this survey, the agricultural holdings are restricted to those which meet one of the following conditions:

- Having or operated at least 25 sq meter of arable land
- Own or keep at least one head of cattle or five goats/sheep/pigs or fifty chicken/ducks/turkeys during the agricultural year 2002/03 (October 2002 to September 2003) .

Question Specific Definitions:**Type of Agriculture Holdings Codes (Q2.1):**

- **Crops only:** A holding is referred to be a crops only holding if it has cultivated a piece of land equal or exceeding 25 sq Meter. This also applies to all households owning or have kept livestock whose number does not qualify such household to be an agricultural holding (No cattle, less than 5 goats/sheep/pigs, less than 50 chickens/turkeys/ducks/rabbits)

- **Livestock only:** A holding is referred to be a Livestock only holding if it has exercised Livestock husbandry only during the agricultural year. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time.

- **Livestock pastoralism:** This refers to a household which practices livestock production as its major income generating activity and a means of subsistence, but moves from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they have no permanent place of residence.

For both livestock only and pastoralism , the number of livestock has to be at least 1 head of cattle, 5 goats/sheep/pigs or 50 chickens/turkeys/ ducks/rabbits. This also applies to all households owning or have cultivated a piece of land less than 25 sq meter, which does not qualify such household be an agricultural holding.

- **Both crops and livestock:** A holding is referred to be a both crops and livestock if it has cultivated a piece of land equal or exceeding 25 sq meter and if such households is owning or have kept livestock whose number qualify such household be an agricultural holding.

Important livelihood activities/source of income (Q 2.2):

- **Crop farming:** This refers to a household where crop production is its major means of subsistence and income generation.

- **Livestock farming/herding/pastoralism:** This refers to a household where livestock farming/herding is its major means of subsistence & income generation.

- **Off Farm Income** This refers to cash generated from activities other than from the households holding. This can be from permanent employment (eg government/other), temporary employment/labouring and includes cash generated from working on other farmers farms.

-**Remittances:** Assistance from family members who are not currently part of the household, or from a relative or family friend. This assistance is usually in the form of cash but it can also be in-kind (eg food, clothes, building material, farm tools, etc). The money is a gift and is not paid back.

-**Fishing/hunting and gathering** The use of non farmed resources for food eg fishing, hunting wildlife and gathering mushrooms, berries, wild honey roots from uncultivated land.

Procedures for Questions:**Q 2.1 Type of agriculture household/holding**

1. Using the options under the question classify the type of agriculture hh/holding

Note: If the hh had 1 acre of crops and raised 40 chickens during 2002/03 it is classified as '**Crops only**' as the number of chickens do not qualify the hh as keeping livestock.

Q 2.2 Important hh livelihood activities /source of income

1. Read the list in column 1 to the respondent and ask him to rank them in order of importance during the reference year.

2. In column 2 Indicate the importance of each activity by placing '1' against the most important, '2' against the second most important, etc until you reach '7' the least important activity/source of income.

Note: You must attempt to fill in all boxes. Most households will carry out these activities to a greater or lesser degree. You will normally have to probe to get remittances.

If the hh did not undertake an activity during the 2002/2003 agriculture year then mark the appropriate box in column 2 with an 'X'.

3. For each activity/source of income assign a percentage. The enumerator should assist the respondent in assigning the percentage based on the information provided by the farmer.

4. After completing column 3 make sure the percentages add up to 100.

Note: It is not essential to be 100% accurate. This question is just to give the relative importance of the different items in general terms

3.0 HOUSEHOLD INFORMATION

3.1 Give details of personal **particulars** of all household members beginning with the head of the household

S/N	Names of household members	Relation-ship to head	Sex M=1 F=2	Age (if age is above 99 years then write 99)	Survival of Parents		Read & Write	Edu- ca- tion Status	Education Level reached	Invol- vement in farming	Main activity (for aged 5 & above)	Off-farm Income Yes=1 No=2
					Mo- ther	Fa- ther						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3.1.1	1										
3.1.2											
3.1.3											
3.1.4											
3.1.5											
3.1.6											
3.1.7											
3.1.8											
3.1.9											
3.1.10											
3.1.11											
3.1.12											
3.1.13											
3.1.14											
3.1.15											
3.1.16											

<p>Relation to head (Col 2)</p> <p>Head of household1 Spouse2 Son/daughter3 Father/Mother4 Grandson/granddaughter .5 Other Relative6 Others8</p>	<p>Education Status (Col 8)</p> <p>Attending School1 Completed2 Never attended School3</p>	<p>Involvement in farming activities (Col 10)</p> <p>Works full time on farm ...1 Works part-time on farm 2 Rarely works on farm3 Never works on farm.....4</p>	<p>Main activity (Col 11)</p> <p>Crop Farming01 Livestock Keeping/Herding..02 Livestock Pastoralism.....03 Fishing04 Paid employment: - Government/parastatal05 - Private- NGO/mission/etc .06 Self employed (non farming) - with employees07 - without employees08 Unpaid family helper (non agriculture)09 Not working & available.....10 Not working & unavailable...11 Housemaker/housewife12 Student13 Unable to work /too old/ Retired/sick/disabled).....14 Other98</p>																												
<p>Survival of Parents (Col 5 & 6)</p> <p>Yes1 No2 Don't know3</p>	<p>Education Level Reached (Col 9)</p> <table border="0"> <tr> <th>Primary Education</th> <th>Secondary Education</th> </tr> <tr> <td>Not of school ageNA</td> <td>Form one11</td> </tr> <tr> <td>Under Standard One 00</td> <td>Form two12</td> </tr> <tr> <td>Standard One01</td> <td>Form three13</td> </tr> <tr> <td>Standard Two02</td> <td>Form four14</td> </tr> <tr> <td>Standard Three03</td> <td>Form five15</td> </tr> <tr> <td>Standard Four04</td> <td>Form six16</td> </tr> <tr> <td>Standard Five05</td> <td>Training after Secondary</td> </tr> <tr> <td>Standard Six06</td> <td>Education17</td> </tr> <tr> <td>Standard Seven07</td> <td>University & other tertiary</td> </tr> <tr> <td>Standard Eight08</td> <td>Education18</td> </tr> <tr> <td>Training after Primary</td> <td>Adult Education19</td> </tr> <tr> <td>Education09</td> <td>Not applicable99</td> </tr> <tr> <td>Pre Form One10</td> <td></td> </tr> </table>		Primary Education	Secondary Education	Not of school ageNA	Form one11	Under Standard One 00	Form two12	Standard One01	Form three13	Standard Two02	Form four14	Standard Three03	Form five15	Standard Four04	Form six16	Standard Five05	Training after Secondary	Standard Six06	Education17	Standard Seven07	University & other tertiary	Standard Eight08	Education18	Training after Primary	Adult Education19	Education09	Not applicable99	Pre Form One10		
Primary Education	Secondary Education																														
Not of school ageNA	Form one11																														
Under Standard One 00	Form two12																														
Standard One01	Form three13																														
Standard Two02	Form four14																														
Standard Three03	Form five15																														
Standard Four04	Form six16																														
Standard Five05	Training after Secondary																														
Standard Six06	Education17																														
Standard Seven07	University & other tertiary																														
Standard Eight08	Education18																														
Training after Primary	Adult Education19																														
Education09	Not applicable99																														
Pre Form One10																															
<p>Read & Write (Col 7)</p> <p>Swahili1 English2 Swahili & English3 Any other language4 Don't Read/ Write5</p>																															

Definition and working page for page 2**Question Specific Definitions:****Relation to head (Col 2):**

- **Household Head:** A person who is acknowledged by all other members of the household either by virtue of their age or standing as the household head.

Read and Write (Col 7):

- **Any other language:** Must be a written language.

For someone who can read and write in Swahili and any other language apart from English, the correct code is 1. For one who can read and write in English and any other language apart from Swahili the correct code is 2. Code 4 should only be used for another language but not English or Swahili

Education Level Reached (Col 9):

Indicate the highest level only. For those still attending school fill in the last year reached before the survey period. For example if a hh member is currently in standard 7 this year his highest grade reached is standard 6

Main Activity (Col 11):

- **Crop farming:** The persons main activity is crop production. This can be annual crops, vegetables, permanent crops or tree farming.

- **Livestock farming/herding:** The persons main activity is livestock farming/herding. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time. This category also includes fish farming but not fishing.

- **Livestock pastoralism:** The persons main activity is in moving livestock from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they may have no permanent place of residence.

- **Paid employment** - In full time employment earning a cash income

- Government/Parastatal - In full time employment for a government Ministry, Department or Board that is controlled by the Government
- Private/NGO/Mission/etc - employed by Non public/government organisation

- **Self employee** - works for own business for cash income

- With employees - Works for own business for cash and employs other workers

- Without employees - Works for own business for cash but does not employ other workers

- **Not working but available to work** - No productive activity but would like to have one.

- **Not working & nor available for work** - No productive activity and does not want to have one.

- **Unable to work** too old, too young, retired, disabled, etc

Off-farm Income (Col 12) - Income made from activities NOT on the HH's farming activities. This can be any off farm income generation activity and includes working for cash on other peoples farms.

Indicate whether each member was involved in an off farm income generating activity during 2002/03

Overview to section 3.0**Section 3.0 - Preliminary note**

1. Make sure that you define the hh properly to ensure that all the members of the hh are included. Make sure you stress that the hh is not just the hh heads direct family and that it includes other people living and eating together with the family.

2. If you notice that his house is large or you see many people around his house and he has only given you small number of hh members enquire further until you are sure that you have captured all the hh members.

Procedures for questions**Section 3.0 - Household Information**

1. For each household member complete columns 1, 2 & 3.

2. After completing columns 1, 2 & 3 for each household member go back to the first household member and complete the remaining columns for that member.

3. Repeat step 2 for the rest of the household members

IMPORTANT NOTE:

Cross check responses in columns 11 and 12 with section 2 especially in relation to:

off-farm income - if a hh member was involved in off farm income then there should be a response in question 2.2.4 and vice versa.

4.0 LAND ACCESS/OWNERSHIP/TENURE			
4.1 Details of area "owned" by the household in the 2002/03 agricultural year. Give area reported by the respondent in "acres".		Area in Acres	
4.1.1	Area Leased/Certificate of ownership	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	4.2 Was all land available to the hh used during 2002/03 (Yes=1, No=2) <input type="checkbox"/>
4.1.2	Area owned under Customary Law	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
4.1.3	Area Bought from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	4.3 Do you consider that you have sufficient land for the hh (Yes=1, No=2) <input type="checkbox"/>
4.1.4	Area Rented from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
4.1.5	Area Borrowed from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	4.4 Do any female members of the hh own or have customary right to land (Yes=1, No=2) <input type="checkbox"/>
4.1.6	Area Share -cropped from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
4.1.7	Area under Other forms of tenure	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
Total area		<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	

5.0 LAND USE			
5.1 Area operated by household under different forms of land use during 2002/03 agriculture year. Give area reported by the respondent in "acres".		Area in Acres	
			Calculation area
5.1.1	Area under Temporary Mono-crops	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.2	Area under Temporary Mixed crops (eg Maize & beans)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.3	Area under Permanent Mono-crops	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.4	Area under Permanent Mixed crops (eg bananas, coffee & trees)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.5	Area under Permanent/temporary mix (eg bananas & maize)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.6	Area under Pasture	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.7	Area under Fallow	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.8	Area under Natural Bush	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.9	Area under Planted Trees	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.10	Area Rented to others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.11	Area Unusable	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.12	Area of Uncultivated Usable land (excluding fallow)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
Total area		<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	

6.0 ACCESS AND USE OF RESOURCES

6.1 In the following table indicate the distance to the different fields used by the household

S/N	Field Number	Distance (in kilometres) from field to:			Distance codes less than 100m1 between 2 and 3km6 between 100 and 300m ..2 between 3 and 5km7 between 300 and 500m ..3 between 5 and 10 km ..8 between 500 and 1km....4 Over 10 km9 between 1 and 2km5
		Homestead	Nearest road	Nearest Market	
6.1.1	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.2	2	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.3	3	<input type="text"/>	<input type="text"/>	<input type="text"/>	

6.2 In the following table indicate the distance and use of the following communal resources

S/N	Communal Resource	Distance to resource (km)		Main hh use	Instructions for distance to resource (Col 2 and 3): If under 1km, write 0 If above 1km round to whole numbers eg 1.5km= 2km, 1.25km= 1km
		dry season	wet season		
	(1)	(2)	(3)	(4)	
6.2.1	Water for humans	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Main hh use (Col 4) Home or farm Consumption/utilisation.....1 Sold to Neighbours.....2 Sold to trader on the farm.....3 Sold to village market4 Sold to local wholesale market.....5 Sold to major wholesale market6 Not used by household.....7 Not available8
6.2.2	Water for livestock	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.3	Communal Grazing	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.4	Communal Firewood	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.5	Wood for Charcoal	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.6	Building poles	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.7	Forest for bees (honey)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.8	Hunting (animal products)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.9	Fishing (Fish)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	

Definition and working page for page 3

Question Specific Definitions

Section 4.1 - Land Access/Ownership

Lease/Certificate of Ownership Area under lease/certificate of ownership refers to the area for which the household possesses a government issued leasehold title or certificate of ownership. The land will normally be officially surveyed and boundaries marked. This includes leased land bought from others where the lease/certificate of ownership has been transferred.

Customary Law: This refers to the land which the hh does not have an official government title to but its right of use is granted by the traditional leaders. This user-right agreement does not have to be granted directly by the village leaders as right of access may be passed on through heredity.

Bought: This refers to the area of customary land that has been bought from others. This land does not have an official title and therefore is not leasehold.

Rented from others: Land rented from others for Cash or for a fixed amount in crop produce (eg fixed number of bags at harvest).

Borrowed: Use granted by land owner free of charge. Land owner can either be a lease holder or has right of access through customary law.

Share Cropping: where the hh is permitted to use land which is then paid for from a percentage of the harvested crop.

Section 5.0 Land Use

- **Temporary crops:** are sown and harvested during the same agricultural year

- **Permanent crops:** are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

- **Mixed Crops:** This is a mixture of two or more crops planted together and mixed in the same plot/field. The two crops can either be randomly planted together or they can be planted in a particular pattern eg intercropping (1 row of maize and 1 row of beans). A field that has been divided into plots for different crops is not mixed. This is further subdivided into:

Permanent Mixed -two or more permanent crops grown together,
Permanent/Temporary Mix - permanent crop and annual crop together,
Temporary Mixed - two or more temporary, annual crops grown together.

- **Pasture Land:** This is an area of owned/allocated land which is set aside for livestock grazing. It can be improved pasture where the farmer has planted grass, applied fertilized or applied other production increasing technologies to improve the grazing. Or it can be rough pasture.

- **Fallow:** This is the area of land that is normally used for crop production, but is not used for crop production during a year or a number of years. This is normally to allow for self generation of fertility/soil structure and is often an integral part of the crop rotation system.

- **Natural Bush:** Land which is considered productive but is not under cultivation or used extensively for livestock production and has naturally growing shrubs and trees.

- **Planted trees:** Land which is used for planting trees for poles or timber

- **Unusable:** Land that is known to be non-productive for agriculture purposes

Uncultivated Usable: This is land that was not used for reasons other than fallow. The reasons could be lack of inputs/money/rainfall/etc

Distance to fields (Q6.1):

-**fields** A field is a contiguous piece of land holding which the farmer considers as a single entity. The field may be divided into plots for growing different crops. A holding may consist of one or more fields in different localities.

Use of Communal Resources (Q6.2):

-**Communal resources** - refers to the place on which all individual households can have access to. It is not individually owned or controlled by one hh.

NOTE: The listed resources refers to communal resources and not those individually owned or part shared. The resource has to be freely accessible to the whole village

Overview to section 4

Section 4.0 - Preliminary note Land Access/ Ownership

Access/Ownership refers to the area utilized by the members of the household. This does not include communal land where the resources are shared between households. It does include official communal land that the hh has sole access to eg a plot for crop farming in the communal area.

Procedures for Questions

Section 4.0 - Land Ownership

1. Ask the respondent if he knows the total area of land the household has sole access to. If he knows make a note in the calculation space
2. Ask the respondent the area of the different land ownership categories the household has sole access to (Q4.1.1 to 4.1.7) and record in the appropriate spaces.
3. Add up the area of the different categories of land and compare it with the total area obtained in step 1 (if the respondent provided the information).
4. If the total area is different find out which one is correct and make amendments where appropriate.

Section 5.0 - Land Use

1. Ask the respondent the area of the different landuse categories the household has sole access to (Q5.1.1 to 5.1.12) and record in the appropriate spaces.
2. Add up the area of the different categories of land and compare it with the total area obtained in section 4.0. The total area should be the same.
3. If the total area is different find out which one is correct and make amendments where appropriate.

Section 6.2 Communal resources

Note: the code "Not available" means that the resource does not exist. The code "Not Used" means that the resource does exist but is not used by the hh.

7.0 ANNUAL CROP AND VEGETABLE PRODUCTION - SHORT RAINY SEASON

7.1.1 Did the hh **plant** any crops during the **Short Rainy** season? (Yes = 1, No=2) If the response is '**NO**' give main reason Then go to section 7.2

7.1.2 For each crop planted during 2002/03 **Short Rainy** season provide the following information

Main Reason (Above) No rains.....1 Rains came too late2 Does not plant annual crops3
 No money 4 Don't get Vuli season ..5 Illness/social problems6
 Has irrigation & does not follow season (give annual production in Masika)7

Crop Name	Crop Code	Land Clearing	Soil preparation	Planting		Inputs						Harvesting & Storage				Marketing			
				Planned area (acres)	Actual Planted area (acres)	% improved seed	Irrigation use	Fertiliser use	Herbicide use	Fungicide use	Pesticide use	How harvested	How threshed	Area Harvested (acres)	main product code	Quantity harvested (Kgs)	Quantity Stored (kgs)	Quantity sold (kgs)	Mostly sold to
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
.....																			
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.....																			
.....																			
.....																			
.....																			
.....																			
Total Planned/Planted						Total area harvested													

7.1.3 Main reason for difference between **Area Planned** and **Area Planted**

7.1.4 Main reason for difference between **Area Planted** and **Area Harvested**

<p>Land Clearing (Col 3)</p> <p>Mostly bush clearance ...1 Mostly hand slashing2 Mostly tractor slashing ...3 Mostly burning4 No land clearing5</p>	<p>Improved seed Use (Col 7)</p> <p>all Improved1 approx 3/4 improved2 approx 1/2 improved3 approx 1/4 improved4 less than 1/4 improved ..5 No improved seed used.6</p>	<p>Fertiliser codes (Col 9)</p> <p>Mostly Farm Yard Manure 1 Mostly Compost2 Mostly Inorganic fertiliser ..3 No fertiliser applied4</p>	<p>Threshed/harvested (Col13 & 14)</p> <p>By hand1 By draft animal2 By human powered tool3 By engine driven machine...4 Not applicable9</p>	<p>Mostly sold to (Col 20)</p> <p>Neighbour.....01 Local market/trade store02 Secondary Market...03 Tertiary Market04 Marketing Coop05 Farmer Association06 Largescale farm07 Trader at Farm08 Contract Partner ...09 Did not sell10 Other98</p>	<p>Reason for difference between area planned and planted (Q7.1.3)</p> <p>Drought1 Floods2 Access to land preparation tools (Draft animal/tractors).3 Credit4 Access to seeds/planting material.....5 Access to other inputs6 Other7 Not applicable9</p>	<p>Reason for difference between area planted and harvested (Q7.1.4)</p> <p>Drought1 Rain/flood damage2 Fire damage3 Pest damage4 Animal damage5 Theft6 Illness/social problems7 Other8 Not applicable9</p>
<p>Soil preparation Method (Col 4)</p> <p>Mostly tractor ploughing .1 Mostly Oxen ploughing ..2 Mostly Hand cultivation ..3</p>	<p>Irrigation Use (Col 8)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on 1/2 of crop3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Agrochemical use codes (Col 10,11 &12)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on 1/2 of crop3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Main product (Col 16)</p> <p>Dry Grain1 Green cob/green pod2 Green leaves & Stem3 Straw, dry stems etc4 Root, tuber, etc5 Flower eg pyrethrum6 Fruit/bunch7 Other8 Not harvested yet9</p>			

Definitions and working page for page 4

Working table for the calculation of area occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .

Total Area of permanent crops in mix 0 .

REMAINING AREA UNDER TEMPORARY CROPS

	crop%	crop area
Temporary/permanent crop name 1		
Temporary/permanent crop name 2		
Temporary/permanent crop name 3		

Total area check . Crop total check .

Crop mixture 2

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .

Total Area of permanent crops in mix 0 .

REMAINING AREA UNDER TEMPORARY CROPS

	crop%	crop area
Temporary/permanent crop name 1		
Temporary/permanent crop name 2		
Temporary/permanent crop name 3		

Total area check . Crop total check .

Land Clearing: Refers to removing trees/bush/grass prior to ploughing
Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc)
Planned Area: Area in Acres the household planned to plant before the season started
Actual Planted Area: The area in Acres the household was able to plant.
Area Harvested: The area in Acres that produced a harvest. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/etc damage.

Temporary/Annual Crop:
 Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.

Crop Codes (Cereals /tubers/roots):

Code	Crop
11	Maize
12	Paddy
13	Sorghum
14	Bulrush Millet
15	Finger Millet
16	Wheat
17	Barley
22	Sweet Potatos
23	Irish potatoes
24	Yams
25	Cocoyams
26	Onions
27	Ginger

Vegetable Codes:

Co	Crop
-de	
86	Cabbage
87	Tomatoes
88	Spinach
89	Carrot
90	Chillies
91	Amaranths
92	Pumpkins
93	Cucumber
94	Egg Plant
95	Water Mellon
96	Cauliflower

Crop Codes Legumes Oil & fruit:

Code	Crop
31	Beans
32	Cowpeas
33	Green gram
35	Chick peas
36	Bambara nuts
37	Field peas
41	Sunflower
42	Simsim
43	Groundnut
47	Soyabeans
48	Caster seed

Cash Crop Codes:

Code	Crop
50	Cotton
51	Tobacco
53	Pyrethrum
62	Jute
19	Seaweed

Instructions for calculating the area of mixed crops in a mixture.

- If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS. and goto step 1 of these instructions.
 - If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix, Step C
 - Number of trees method to calculate annual crop areas in a perant-annual crop mix/
 - list each of the permanent crops in column b and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
 - obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
 - calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
 - subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the total area under temporary crops.
 - proceed to step 1 to calculate the area under each temporary crop.
- Enter the name of each annual crop in the mix & estimate the percentage of each crop.
 - Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
 - After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
 - Obtain an estimate of the planned area for each crop and enter it in column 5
 - If the area harvested is different to the area planted estimate the harvest area
 - Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

7.2 ANNUAL CROP AND VEGETABLE PRODUCTION - LONG RAINY SEASON

7.2.1 Did the hh plant any crops during the **LONG RAINY** season? (Yes=1 No=2)

If the response is 'NO' give main reason

Then go to section 7.3

Main Reason (Above) No rains....1 Rains came too late2 Does not plant annual crops3
No money 4 Illness/social problems ..5

7.2.2 For each crop planted during 2002/03 **Long Rainy** season provide the following information

Crop Name	Crop Code	Land Clearing	Soil preparation	Planting		Inputs						Harvesting & Storage				Marketing			
				Planned area (acres)	Actual Planted area (acres)	% improved seed	Irrigation use	Fertiliser use	Herbicide use	Fungicide use	Pesticide use	How harvested	How threshed	Area Harvested (acres)	main product code	Quantity harvested (Kgs)	Quantity Stored (Kgs)	Quantity sold (kgs)	mostly sold to
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
.....																			
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.....																			
.....																			
.....																			
.....																			
.....																			
.....																			
Total Planned/Planted						Total area harvested													

7.2.3 Main reason for difference between **Area Planned** and **Area Planted**

7.2.4 Main reason for difference between **Area Planted** and **Area Harvested**

<p>Land Clearing (Col 3) Mostly bush clearance ...1 Mostly hand slashing2 Mostly tractor slashing ...3 Mostly burning4 No land clearing5</p>	<p>Improved seed Use (Col 7) all Improved1 approx 3/4 improved....2 approx 1/2 improved....3 approx 1/4 improved....4 less than 1/4 improved ..5 No improved seed used.6</p>	<p>Fertiliser codes (Col 9) Mostly Farm Yard Manure 1 Mostly Compost2 Mostly Inorganic fertiliser ..3 No fertiliser applied4</p>	<p>Threshed/harvested (Col13 & 14) By hand1 By draft animal2 By human powered tool.....3 By engine driven machine...4 Not applicable9</p>	<p>Mostly sold to (Col 20) Neighbour.....01 Local market/trade store02 Secondary Market...03 Tertiary Market04 Marketing Coop ...05 Farmer Association06 Largescale farm ...07 Trader at Farm08 Contract Partner ...09 Did not sell10 Other98</p>	<p>Reason for difference between area planned and planted (Q7.2.3) Drought1 Floods2 Access to land preparation tools (Draft animal/tractors).3 Credit4 Access to seeds/planting material.....5 Access to other inputs6 Other8 Not applicable9</p>	<p>Reason for difference between area planted and harvested (Q7.2.4) Drought1 Rain/flood damage2 Fire damage3 Pest damage4 Animal damage5 Theft6 Illness/social problems7 Other8 Not applicable.....9</p>
<p>Soil preparation Method (Col 4) Mostly tractor ploughing .1 Mostly Oxen ploughing ..2 Mostly Hand cultivation ...3</p>	<p>Irrigation Use (Col 8) Used on all crop1 Used on 3/4 crop2 Used on 1/2 crop3 Used on 1/4 of crop.....4 Used on less than 1/4 ...5 Not used6</p>	<p>Agrochemical use codes (Col 10,11 &12) Used on all crop1 Used on 3/4 of crop2 Used on half of crop3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Main product (Col 16) Dry Grain1 Green cob/green pod.....2 Green leaves & Stem.....3 Straw, dry stems etc4 Root, tuber, etc5 Flower eg pyrethrum6 Fruit/bunch.....7 Others8 Not harvested yet9</p>			

Definitions and working page for page 5

Working table for the calculation of area occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .
Total Area of permanent crops in mix					0 .
REMAINING AREA UNDER TEMPORARY CROPS					
				Temp crop%	Temp crop area
Permanent/Temporary crop name 1					
Permanent/Temporary crop name 2					
Permanent/Temporary crop name 3					
Total area check				Temporary crop total check	

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .
Total Area of permanent crops in mix					0 .
REMAINING AREA UNDER TEMPORARY CROPS					
				Temp crop%	Temp crop area
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
Total area check				Temporary crop total check	

Land Clearing: Refers to removing trees/bush/grass prior to ploughing
Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc)
Planned Area: Area in **Acres** the household planned to plant before the season started
Actual Planted Area: The area in **Acres** the household was able to plant.
Area Harvested: The area in **Acres** that the household got most of its production from. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/etc damage

Temporary/Annual Crop: Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.	Crop Codes (Cereals /tubers/roots): Code Crop 11 Maize 12 Paddy 13 Sorghum 14 Bulrush Millet 15 Finger Millet 16 Wheat 17 Barley 22 Sweet Potatos 23 Irish potatos 24 Yams 25 Cocoyams 26 Onions 27 Ginger	Vegetable Codes: Code Crop 27 Ginger 86 Cabbage 87 Tomatoes 88 Spinach 89 Carrot 90 Chillies 91 Amaranths 92 Pumpkins 93 Cucumber 94 Egg Plant 95 Water Mellon 96 Cauliflower 20 Garlic	Crop Codes Legumes Oil & fruit: Code Crop 31 Beans 32 Cowpeas 33 Green gram 35 Chick peas 36 Bambara nuts 37 Field peas 41 Sunflower 42 Simsim 43 Groundnut 47 Soyabeans 48 Caster seed
	Cash Crop Codes: Code Crop 50 Cotton 51 Tobacco 53 Pyrethrum 62 Jute 19 Seaweed		

Instructions for calculating the area of mixed crops in a mixture.

- If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS. and goto step 1 of these instructions.
- If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix (Step C).
- Number of trees method to calculate annual crop areas in a permanent-annual crop mix
 - list each of the permanent crops in column b and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
 - obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
 - calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
 - subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the total area under temporary crops.
 - proceed to step 1 to calculate the area under each temporary crop.

- Enter the name of each annual crop in the mix & estimate the percentage of each crop.
- Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
- After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
- Obtain an estimate of the planned area for each crop and enter it in column 5
- If the area harvested is different to the area planted estimate the harvest area
- Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

7.3 PERMANENT/PERENNIAL CROPS AND FRUIT TREE PRODUCTION

7.3.1 Does your household have any permanent/perennial crops or fruit trees (Yes=1, No=2) 1

7.3.2 For each of the permanent crops and fruit trees owned by the household provide the following information

		Size of production unit			Inputs					Harvesting & Storage					Marketing		
Perm- anent Crop Name	Perman- ent crop/ fruit tree crop Code	MONOCROP	MIXED CROP		Irrig- -at -ion use	Fert- -ilis- -er use	Herb- -ic -ide use	Fun- -gic -ide use	Pest -ici- -de use	Area Harvested (acres)	Number of mature plants	main prod- -uct code	Quantity harvested (kgs)	If no harvest give re- -ason	Quantity Stored (Kgs)	Quantity sold (kgs)	mostly sold to
		Area of Plants/ trees/Bushes in MONO CROP (acres)	Area covered by Permanent Crop in a MIXED CROP (acre)	Number of permanent Plants/trees in a MIXED CROP													
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.....																	
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<p>Irrigation Use (Col 6)</p> <p>Used on all crop1</p> <p>Used on most crop2</p> <p>Used on half crop3</p> <p>Used on small amount of crop.4</p> <p>Not used on crop5</p>	<p>Fertiliser codes (Col 7)</p> <p>Mostly Farm Yard Manure.....1</p> <p>Mostly Compost2</p> <p>Mostly Inorganic fertiliser3</p> <p>No fertiliser applied4</p>	<p>Agrochemical use codes (Col 8, 9 & 10)</p> <p>Used on all crop1</p> <p>Used on 3/4 of crop2</p> <p>Used on 1/2. of crop3</p> <p>Used on 1/4 of crop4</p> <p>less than 1/4 of crop5</p> <p>Not used6</p>	<p>Main product (Col 13)</p> <p>Dry Grain.....1</p> <p>Green cob/green pod..2</p> <p>Green leaves & Stem..3</p> <p>Straw, dry stems etc ...4</p> <p>Root, tuber, etc5</p> <p>Flower6</p> <p>Fruit/bunch.....7</p> <p>Other8</p> <p>Not harvested yet9</p>	<p>Main Reason for no harvest(Col 15)</p> <p>Crop not harvested yet1</p> <p>Drought2</p> <p>Rain/flood damage3</p> <p>Fire damage4</p> <p>Pest damage5</p> <p>Animal damage6</p> <p>Theft7</p> <p>Other8</p> <p>Not applicable9</p>	<p>Mostly sold to (Col 18)</p> <p>Neighbour.....01</p> <p>Local market/trade store....02</p> <p>Secondary Market03</p> <p>Tertiary Market04</p> <p>Marketing Coop05</p> <p>Farmer Association06</p> <p>Largescale farm07</p> <p>Trader at farm08</p> <p>Contract Partner09</p> <p>Did not sell10</p> <p>Other98</p>
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Definitions and working page for page 6

Permanent Crop:

Permanent crops: are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

Total number of plants:

This includes both mature harvestable plants and immature non harvestable plants.

Number of mature plants: This is the number of plants which bared harvest.

Instructions for Permanent crop mono stands and mixtures

- A.** For fields that are **monocrop permanent**, **ONLY** enter the **area of plants in column 3**.
- B.** For fields that are **mixed permanent** calculate the area of each crop based on the % **occupied by each crop method** (NOT using the number of trees method) and **ONLY** enter the area in **column 4**
- C.** For fields that are **mixed permanent/annual** either:
- **ONLY** enter the **area in column 4** if the area of the permanent crop was based on the % **occupied by each crop method**
- OR**
- **ONLY** enter the **number of trees in column 5** if the number of permanent crop plants was provided

Permanent crops (oils):

Code	Crop	Ground area/plant
44	Palm Oil	0.00049
45	Coconut	0.00037
46	Cashewnut	0.00062

Permanent (Cash crops)

Code	Crop	Ground area/plant
53	Sisal	0.00012
54	Coffee	0.00049
55	Tea	0.00037
56	Cocoa	0.00049
57	Rubber	0.00099
58	Wattle	0.00099
59	Kapok	0.00124
60	Sugar Cane	0.00012
61	Cardamom	0.00049
63	Tamarin	0.00099
64	Cinamon	0.00124
65	Nutmeg	0.00099
66	Clove	0.00074
18	Black Pepper	0.00037
34	Pigeon pea	0.00025
21	Cassava	0.00019
75	Pineapple	0.00006

Permanent Crops:

Code	Crop	Ground area/plant
70	Passion Fruit	0.00074
71	Banana	0.00037
72	Avocado	0.00099
73	Mango	0.00099
74	Papaw	0.00037
76	Orange	0.00074
77	Grapefruit	0.00074
78	Grapes	0.00012
79	Mandarin	0.00074
80	Guava	0.00074
81	Plums	0.00074
82	Apples	0.00074
83	Pears	0.00074
84	Peaches	0.00074
85	Lime/lemon	0.00074
68	Pomelo	0.00099
69	Jack fruit	0.00074
97	Durian	0.00074
98	Bilimbi	0.00074
99	Rambutan	0.00074
67	Bread fruit	0.00099
38	Malay apple	0.00074
39	Star fruit	0.00074

Working Area/calculation space

7.4 Main use of Secondary Products

7.5 Did you use **Secondary Products** from any of your crops during the 2002/03 year. (Yes=1, No=2)

If the response is 'NO' go to section 8.0

7.6 List the **main crops** with **secondary products** and provide the following details:

S/N	Crop name	Crop Code	Secondary product	Prod code	Used for	Unit	Total no of Units	No of units sold	Total value of sold units (Tsh.)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.6.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Main product (Col 4)

Green leaves & Stem...1 Flower ...4
 Straw, dry stems etc ...2 Fruit5
 Root, tuber, etc3 Other8

Mainly used for (Col 5)

Feeding to livestock ..1 Consumed by hh4
 Building material2 Sold5
 Fuel for cooking3 Did not use.....6

Unit (Col 6)

Loose Bundle/bunch1 kg5
 Compressed bunch/Bail...2 Stems6
 Tin3 Sack7
 Bucket4 Other8

8.0 AGROPROCESSING AND BY-PRODUCTS

8.1 Did the household **process** any of the products harvested on the farm during 2002/03 (Yes=1, No=2)

If the response is 'NO' go to section 9.0

8.2 List the **main crops processed** and provide the following details:

S/N	Crop name	Crop Code	Proc-ess -ed	Main Prod -uct code	Used for	Unit	Quantity of main product	Quantity Sold	Whe -re sold	By-Prod -uct code	Used for	Unit	Quantity of by-product	Quan -tity Sold
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.2.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Processed (Col 3)

On farm by hand1
 On farm by machine2
 By neighbours machine...3
 By farmers association ...4
 By Cooperative union5
 By trader6
 On Large scale farm7
 By factory9
 Other8

Main product code (Col 4)

Flour/meal.....1
 Grain2
 Oil3
 Juice4
 Fiber.....5
 Pulp6
 Sheet7
 Other8

Used for (Col 5 & 11)

Household/human consumption ..1
 Fuel for cooking2
 Sale3
 Animal consumption4
 Did not use5
 Other8

Where sold (Col 9)

Neighbour.....1
 Local market/trade store2
 Secondary Market3
 Marketing Coop4
 Farmer Association5
 Largescale farm6
 Trader at farm7
 Did not sell9
 Other8

By-product code (Col 10)

Bran01
 Cake02
 Husk03
 Juice04
 Fiber05
 Pulp06
 Oil07
 Shell08
 Other98

Unit (Col 6 & 12)

Loose bundle/bunch1
 Compressed bunch/bail...2
 Tin3
 Bucket4
 kg5
 litre6
 Other8

Definition and working page for page 7					
Temporary/annual crop codes for section 7.4 col 2				General Definition for Section 7.4	
Crop Code	Crop Name	Secondary Product Question 7.4	Agroprocessing & bi-products		
			Main Products (Section 8.0)	Bi-product (Sect 8.0)	
			1	2	
11	Maize	Stems/straw	Flour	Bran	
12	Paddy	Stems/straw	polished rice grain	husk	
13	Sorghum	Stems/straw	flour		
14	Bulrush Millet	Stems/straw	flour		
15	Finger Millet	Stems/straw	flour		
16	Wheat	Stems/straw	flour	Bran	
17	Barley	Stems/straw	flour	Bran	
21	Cassava	Leaves/stems	flour		
22	Sweet Potatoes	Leaves			
23	Irish potatoes				
24	Yams				
25	Cocoyams				
26	Onions				
27	Ginger				
31	Beans	straw/stems			
32	Cowpeas	straw			
33	Green gram	straw			
34	Pigeon peas	stems			
35	Chick peas	straw			
36	Bambara nuts	straw/stems	oil	cake	
41	Sunflower	Stems	oil	Cake	
42	Simsim	straw	oil	Cake	
43	Groundnut	straw	oil	Cake	
47	Soya beans	straw	oil	Cake	
48	Caster seed	straw	oil	Cake	
75	Pineapple		Juice		
50	Cotton	straw	fibre/seed	oil	cake
51	Tobacco				
53	Pyrethrum	straw	insecticide		
62	Jute		fibre		
86	Cabbage				
87	Tomatoes				
88	Spinach				
89	Carrot				
90	Chillies		dried powder		
91	Amaranths				
92	Pumpkins	leaves			
93	Cucumber				
94	Egg Plant				
95	Water Mellon				
96	Cauliflower				
44	Oil Palm	leaves	oil outer	oil inner	cake
45	Coconut	leaves/husk	milk		
46	Cashewnut	Fruit	fruit juice	shell liquid	
52	Sisal	stems	fibre	oil	
54	Coffee	stems	beans	husks	
55	Tea	stems			
56	Cocoa	stems	cocoa	cocoa butter	
57	Rubber	stems			
58	Wattle	stems			
59	Kapok	stems			
60	Sugar Cane		sugar/juice	molasses	ethanol
61	Cardamom				
71	Banana	leaves/stems	juice		
72	Avocado	stems			
73	Mango	stems	Juice		
74	Paw paw		Juice		
76	Orange	stems	Juice		
77	Grape fruit	stems	Juice		
78	Grapes	stems	Juice		
79	Mandarin	stems	Juice		
80	Guava	stems			
81	Plums	stems			
82	Apples	stems			
83	Pears	stems			
84	Pitches	stems			
85	Lime/Lemon	stems	juice		

General Definition for Section 7.4

Secondary Products: Second most important product from a crop. Eg a household may consider the grain from maize as the primary product and the stems/straw as the secondary product.

Note: Secondary products are NOT the same as bi-products. By-products are the result of a processing activity and are dealt with in section 8.0.

Procedures for Questions

Q 7.6 Details of Secondary Products:

- From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondent if the hh used any secondary products. List the crop names and codes in column 1 and 2 for those crops that the hh used secondary products.
- For the listed crops give details of the secondary products used.
- If no units were sold, enter "0" in columns 8 & 9.

Q 8.0 Agroprocessing & bi-products:

- From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondent if the hh processed any of these crops during the 2002/03 agriculture year. List the crop names and codes in column 1 and 2 for those crops that were processed by the hh.
- For the listed crops give details of the secondary crops used.
- If no main product or bi-product was sold enter "0" in columns 8 & 14.
- If no bi-product was produced enter "0" in columns 10, 11, 12, 13 & 14.

Question Specific Definitions

Agroprocessing and bi-products (Q 8.2)
(Note: Agroprocessing refers to the processing of crops for hh utilisation and for sale)

Main Product (Col 5):

Main Product after processing. Eg for Paddy it may be the polished grain. For Maize it may be flour.

Bi-Product code (Col 11): is the secondary residue after processing, eg for rice it may be the husk. for maize it may be the bran.

Mainly used for (Col 5 & 11):

- Consumed by household can mean eaten or utilised in another way (eg by animals) by the hh.

9.0 CROP STORAGE

9.1 Did the household **store** any crops during the 2002/03 agriculture year? (Yes =1, No=2)
If the response is 'NO' go to section 10.0

9.2 For **each** of the listed crops provide the following details on **storage**

S/N	Crop Name	Stor- ed Y=1 No=2	Current Quantity Stored (kg)	Method of Storage	Normal duration of storage	Main pur- pose	Estimate Storage loss
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
9.2.1	Maize	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.2	Paddy	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.3	Sorghum/Millet	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.4	Beans, peas, etc	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.5	Wheat	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.6	Coffee	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.7	Cashewnut	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.8	Tobacco	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.9	Cotton	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.10	Groundnuts/bambara	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Main method of Storage (Col 4)

- In locally made traditional structure..1
- In Improved locally made structure .2
- In modern store3
- In Sacks/open drum.....4
- In airtight drum5
- Unprotected pile6
- Other8

Duration of Storage (Col 5)

- Less than 3 months1
- Between 3 and 6 months2
- Over 6 months3

Main purpose of storage (Col 6)

- Food for the household1
- To sell for higher price2
- seed for planting.....3
- Other8

Storage loss (Col 67)

- Little or no loss1
- Up to 1/4 loss2
- Between 1/4and 1/2 loss ..3
- Over 1/2 loss4

10.0 MARKETING

10.1 Did the household **sell any crops** from the 2002/03 agriculture year? (Yes=1, No=2)
(If the response is 'YES' or 'NO' go to section 10.2)

10.2 For **each of the following crops** what was the main **marketing problem** faced by the household during 02/03

	Crop	Main problem
	(1)	(2)
10.2.1	Maize	<input type="checkbox"/>
10.2.2	Rice	<input type="checkbox"/>
10.2.3	Sorghum/millet	<input type="checkbox"/>
10.2.4	Wheat	<input type="checkbox"/>
10.2.5	Beans, peas etc	<input type="checkbox"/>
10.2.6	Cassava	<input type="checkbox"/>
10.2.7	Bananas	<input type="checkbox"/>
10.2.8	Coffee	<input type="checkbox"/>

	Crop	Main problem
	(1)	(2)
10.2.9	Vegetables	<input type="checkbox"/>
10.2.10	Tree Fruits	<input type="checkbox"/>
10.2.11	Cashewnut	<input type="checkbox"/>
10.2.12	Cotton	<input type="checkbox"/>
10.2.13	Tobacco	<input type="checkbox"/>
10.2.14	Groundnuts/bamabara	<input type="checkbox"/>
10.2.15	Trees/timber/poles	<input type="checkbox"/>
10.2.16	Fish	<input type="checkbox"/>

10.3 From the list of marketing problems below, for all produce rank the five most important problems

	1	2
10.3.1	Biggest problem	<input type="checkbox"/>
10.3.2	2nd problem	<input type="checkbox"/>
10.3.3	3rd problem	<input type="checkbox"/>
10.3.4	4th problem	<input type="checkbox"/>
10.3.5	5th problem	<input type="checkbox"/>

Market problems (Q10.2 & 10.3 (Col 2))

- Open market price too low01
- Market too far05
- Government Regulatory board problems...09
- No transport02
- Farmer association problems06
- Lack of market Information10
- Transport cost too high03
- Cooperative Problems07
- Other (specify)98
- No buyer04
- Trade Union problems08
- Not Applicable99

10.4 What was the main **reason for not selling** crops during 2002/03 year

Reason for not selling crops (Q10.4)

- Price too low1
- Farmer association problems4
- Government regulatory board problems7
- Production insufficient to sell.....2
- Cooperative Problems.....5
- Other (specify)8
- Market too far3
- Trade Union problems6
- Not Applicable9

Definition and working page for page 8**Question Specific definitions (Section 9.0)****Crop Storage, Section 9****Method of Storage (column 4)**

- **Locally made structure:** The structures that have been inherited from their fore fathers
- **Improved locally made structure:** Traditional structures that have been improved using modern technology.
- **Normal duration of storage:** Often there are stored stocks from different seasons and different years. The normal duration refers to the number of months that the most of the crop is stored for.

Marketing problems Q 10.2 and 10.3 col 2:

- **Farmer Association:** A village or community based group of farmers who have formed an organisation to purchase inputs/sell/store their products in order to achieve a better price for their products.
- **Cooperative Union:** Large inter-village /community organisation set up on a district/regional or national basis for providing inputs, marketing and storing farmers products.
- **Government Regulatory board:** Government control body for setting prices and controlling quality of certain agriculture commodities.

Procedures for Questions**Q 9.2 Details of Crop Storage:**

1. For the crops listed indicate if the household stored any during 2002/03 in column 2.
2. Check that the crops correspond to the crop lists in Q 7.1.2, 7.2.2 & 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments
3. For the listed crops give details of storage.

Q 10.2 Details on Crop Marketing:

1. For each of the crops listed indicate the main problems in marketing during 2002/03 in column 2.
2. Check if the crops correspond to the crop lists list in Q 7.1.2, 7.2.2 & 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments

Q 10.3 Ranking of market problems:

Rank in order of importance the 5 most important marketing problems from the codes in the Market Problems code box.

Working Area/calculation space

11.0 ON-FARM INVESTMENT					
11.1 Does the household practice irrigation (Yes=1, No=2) <input style="float:right" type="checkbox"/>					
<i>If the response is 'NO' go to section 11.3</i>					
S/N	Source of Irrigation water	Method of obtaining water	Method of application	Irrigatable area (acres)	Area of irrigated land this year (acres)
	(1)	(2)	(3)	(4)	(5)
11.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
Source of irrigation water (Col 1) River1 Borehole5 Lake2 Canal6 Dam3 Tap Water7 Well4			Method of obtaining water (Col 2) Gravity1 motor pump4 Hand bucket2 Other8 Hand pump3		Method of application (Col 3) Flood1 Sprinkler2 water hose3 Bucket/watering can4

11.2 Does the household have any erosion control/water harvesting facilities on their land (Yes=1, No=2) <input style="float:right" type="checkbox"/>						
<i>If the response is 'NO' go to section 12.0</i>						
S/N	Type of erosion control/water harvesting structure	Number of structures	Year of construction	Type of erosion control/water harvesting structure	Number of structures	Year of construction
	(1)	(2)	(3)	(1)	(2)	(3)
11.2.1	Terraces	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.5	Tree belts	<input type="text"/> <input type="text"/>
11.2.2	Erosion control bunds	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.6	Water harvesting bunds	<input type="text"/> <input type="text"/>
11.2.3	Gabions/Sandbags	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.7	Drainage ditches	<input type="text"/> <input type="text"/>
11.2.4	Vetiver Grass	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.8	Dam	<input type="text"/> <input type="text"/>

12.0 ACCESS TO FARM INPUTS AND IMPLEMENTS									
12.1 Give details of farm inputs used during the 2002/03 agriculture year									
S/N	Input name	Used Yes=1 No=2	Source	Distance to Source	Source of Finance	Reason for not using	Quality of Input	Plan to use next year Yes =1, No=2	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
12.1.1	Chemical Fertiliser	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.2	Farm Yard Manure	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.3	Compost	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.4	Pesticide/fungicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.5	Herbicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.6	Improved Seeds	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.7	Other	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Source (Col 3) Cooperative01 Local farmers group02 Local market/Trade Store ...03 Secondary Market04 Development project05 Crop buyers06 Large scale farm07 Locally produced by hh08 Neighbour09 Other (specify)98 Not applicable99		Distance to source (Col 4) Less than 1 Km1 Between 1 and 3km2 between 3 and 10 km...3 Between 10 and 20 km ...4 20km and above5 not applicable9		Source of finance (Col 5) Sale of farm products .1 Other income generating activities ...2 Remittances3 Bank Loan/Credit4 produced on farm5 Other8 Not applicable9		Reason for not using (Col 6) Not available1 Price too high2 No money to buy3 Too much labour required..4 Do not know how to use...5 Input is of no use6 Locally produced by hh7 Other8 Not applicable9		Quality of input (Col 7) Excellent1 Good2 Average3 Poor4 Does not work .5 not applicable...9	

Definition and working page for page 9

Overview of Investment activities (Section 11.0)

Investment activities:

Investment activities refer to medium to long term farm development structures and projects. This can be Irrigation structures, erosion and water harvesting structures or other permanent or semi-permanent investment made on the land that the household owns.

Question Specific Definitions (Q 11.1)

Source of irrigation Water (Col 1): The main source of water from which water is obtained for irrigation.

Method of obtaining water (Col 2): The mechanism by which the water is extracted from the source,

Application Method (Col 3): How the water is applied on the field.
 - Flood - is the application of water down the slope of the land by means of gravity
 - Sprinkler - is the application of pressurised water through pipes. The water passes through a device which sprays the water onto the crop from above.

Irrigatable Area (Col 4): The area the irrigation system is designed to cover in acres.

Area of irrigated land this year (Col 5): Area of land under irrigation during the 2002/03 agric year. This is the physical area and NOT the cumulative area of 2 or more croppings.

Q 11.1 Irrigation

1. If the hh practices irrigation give details on the main source, main method of obtaining and applying water.
2. Cross check column 8, Q 7.1.2, 7.2.2 & 7.3.2 to check if irrigation was used on any crops.

Question Specific Definitions (Q 11.3)

Erosion control/water harvesting structure (Col 1)

Terraces: Are structures constructed on the side of a hill to provide a level ground to plant crops. They are often used to trap water for paddy/lowland rice production.

Erosion Control Bunds: These are banks of earth/stones built perpendicular to the slope to slow down water and prevent erosion. They are different to Terraces in that the soil behind the banks are not level.

Gabions: A gabion is a wire mesh box filled with rocks/stones and used to control or prevent gully erosion

Sandbags Used to prevent or control gully erosion

Tree belts/Wind breaks: A band of trees planted perpendicular to the prevailing wind whose main purpose is to slow down wind speed

Water Harvesting bunds: A bank of earth constructed horizontal to the slope of the land to trap water. They are usually banana shaped.

Dam: A bank of earth/material which traps river water to form a catchment of water behind it.

Q 11.3 erosion control/water harvesting

1. Number of structures refers to the number of working/maintained structures and does not include derelict or irreparable structures.
2. Year of construction refers to the year that the structures were first constructed. It is not the year that the structures were last maintained.

Farm Inputs (Q 12.1.1 to 12.1.7)

Farm yard Manure: An organic fertiliser made on farm composed of animal dung.

Compost: An organic fertiliser made on farm from decomposed plant material

Pesticide: Chemical used to either protect the plant from or kill insects, birds, molluscs, mites, etc attacking the plant

Fungicide: is a chemical that s used to protect the plant from or control a fungal disease.

Herbicide: A chemical used to control weeds.

Q 12.0 Farm Inputs

1. Indicate in column 1 whether each of the inputs are used or not.
2. Complete cols 3, 4, 6, and 7 for inputs that are used and place '9' in column 5 (for not applicable).
3. Complete cols 5 & 7 for inputs not used.

NOTE: Cross check column 6, 7, 8 & 9 , Q 7.1.2, 7.2.2 & 7.3.2 to check what inputs were used.

12.2 Give details of farm implements and assets used and owned by the household during 2002/03 agriculture year									
S/N	Equipment/Asset Name	Number		Used in 2002/03 Yes 1, No=2	Source of Equip-ment	Source of Fin-ance	Reason for not using	Plan to use next year Yes=1, No=2	
		Owned	rent-ed						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
12.2.1	Hand Hoe	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.2	Hand Powered Sprayer	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.3	Oxen	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.4	Ox Plough	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.5	Ox Seed Planter	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.6	Ox Cart	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.7	Tractor	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.8	Tractor Plough	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.9	Tractor Harrow	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.10	Shellers/threshers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
		Source of equipment (Col 5) Neighbour.....1 Development project5 Cooperative2 Government6 Local farmers association.....3 Large scale farm7 market/Trade store4 Other (specify)8			Source of finance (Col 6) Sale of farm products1 Other income generating activities .2 Remittances3 Bank Loan4 Credit5 Other8 Not applicable9		Reason for not using (Col 7) Not available1 Price too high2 No money to buy/rent.....3 Too much labour required...4 Equipment/Asset of no use ...5 Other8 Not applicable9		
13.0 USE OF CREDIT FOR AGRICULTURE PURPOSES									
13.1	During the year 2002/03 did any of the hh members borrow money for agriculture (Yes = 1, No = 2) <i>(if the response is 'NO' go to section 13.3)</i>							<input type="text"/>	
13.2 Give details of the credit obtained during the agricultural year 2002/03 <i>(if the credit was provided in kind , for example by the provision of inputs, then estimate the value in 13.2.9)</i>									
	use codes to indicate source	Source "a"		Source "b"		Source "c"			
	Provided to Male = 1, Female 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
		tick the boxes below to indicate the use of the credit		tick the boxes below to indicate the use of the credit		tick the boxes below to indicate the use of credit			
13.2.1	Labour	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.2	Seeds	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.3	Fertilisers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.4	Agrochemicals	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.5	Tools/equipment	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.6	Irrigation structures	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.7	Livestock	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.8	Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.9	Value of Credit (Tsh.)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.10	Value of repayment (Tsh.)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
13.2.11	Period of repayment (months)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Source of credit (Q 13.2-a, b and c) Family, friend or relative...1 Commercial Bank.....2 Cooperative3 Savings & credit Soc4 Trader/trade store5 Private individual6 Religious Organisation/NGO/Project ...7 Other (Specify).....8									
13.3	If the answer to question 13.1 above is 'NO' what is the reason for not using Credit?							<input type="text"/>	
Reason for not using credit (Q13.3) Not needed ...1 Not available ...2 Did not want to go into debt....3 Interest rate/cost too high.....4 Did not know how to get credit....5 Difficult bureaucratic procedure ...6 Credit granted too late ...7 Other (specify) ...8 Dont know about credit9									

Definition and working page for page 10

Question Specific Definitions (Q 12.2)

Farm Implements (Col 1):

Hand powered Sprayer: Knapsack or bicycle pump sprayer

Reason for not using (Col 6): Be careful about using "too much labour required" as this code generally refers to hand hoes only. The codes for this should "**NOT**" be read out to the farmer as a prompt.

Note: If remittance is given as the main source of finance check for a response to remittances in **question 2.2.5**

Procedures for questions

Q 12.0 Farm Inputs

1. Indicate in column 2 and 3 whether each of the implements were used or not.
2. Complete cols 4, 5, 6, and 8 for inputs that are used and place '9' in column 7 (for not applicable).
3. Complete cols 7 & 8 for inputs not used.

Question Specific Definitions (Q 13.0)

Section 13.0 Credit for Agriculture Purposes

Credit is defined as finance in the form of cash or in-kind contributions (eg direct provision of inputs, machinery, livestock or other material) for the purpose of crop and livestock production whereby the value of the credit must be paid back to the borrower. The value of repayment may either be with interest or interest free.

Credit may be paid back in the form of cash or agriculture produce.

Section 13.0 Credit for Agriculture Purposes

Value of credit: is the amount in cash received from the borrower. If the credit was paid in-kind, estimate the value of this.

Value of repayment: This is the amount to be repaid to the borrower and includes the principal amount (value of credit) plus any interest repayment. If the credit is paid back in agriculture produce, then the cash value of this must be estimated.

Period of repayment: This is the time in months the borrower has given for full repayment.

Section 13.2 Source of agriculture credit

If the farmer obtained credit from more than one source then use the columns "a", "b" and "c" for the different sources of credit. Start with the main source of credit in column "a".

NOTE: Check for use of inputs in column 7, 8 & 9 of questions 7.1.2, 7.2.2 & 7.3.2.

Working Area/calculation space

Large empty rounded rectangular area for working area/calculation space.

14.0 TREE FARMING/AGROFORESTRY										
14.1	Did your household have any Planted Trees on your land during 2002/03 agric year? (Yes =1, No=2)									<input type="checkbox"/>
<i>If the response is 'NO' go to section 14.3</i>										
14.2 Give details of the planted trees you have on your land.										
S/N	Tree Code	Number of trees	Where planted	Main Use	Secondary Use	Number of Plank trees Sold	Number of Pole trees Sold	hh utilised		Total Value (Tsh.)
								Number of Poles	Number of Timber	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
14.2.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where Planted (Col 3)						Use (Col 4 & 5)				
Mostly on field/plot boundaries.....1						Planks/Timber.....1 Shade5				
Mostly scattered in fields2						Poles2 Medicinal.....6				
Mostly in plantation/coppice ...3						Charcoal3 Other8				
						Fuel wood4				
14.3	Does your village have a Community tree planting scheme (Yes=1, No=2)									<input type="checkbox"/>
<i>If the response is 'NO' go to section 15.0</i>										
14.4 Household involvement in community tree planting scheme										
S/N	Distance to community planted forest (Km)	hh Involve -ment	Main purpose	Main use during 2002/03						
	(1)	(2)	(3)	(4)						
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
HH involvement (Col 2)			Main Purpose (Col 3)			Main Use during 02/03(Col 4)				
Only planting1			Erosion control.....1 Environment rehaiblitation ...4			Poles1 Not ready to use5				
Only protection and thinning.....2			Production of poles2 Restoration of wildlife5			Timber logs2 Not allowed to use6				
Only cutting3			production of firewood...3 Other (specify)8			Charcoal3 Other (specify)8				
Most or all activities.....4						Firewood4				

15.0 CROP EXTENSION SERVICES							
15.1	Did your household receive extension advice for crop production during 2002/03 (Yes=1,No=2)						<input type="checkbox"/>
<i>If the response is 'NO' go to section 16.0</i>							
S/N	Extension Provider	Source of extension (Y=1,N=2)	If you pay for extension, what is the cost/yr	Contact farmer /group member (Yes=1,No=2)	No. of visits by extension agency per year	No. of message adopted in the last 3 years	Quality of Service
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
15.1.1	Government extension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.2	NGO/development project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.3	Cooperative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.4	Large Scale farmer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.5	Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of service (Col 7)							
Very good1 good2 Average.....3 Poor.....4 No Good5							

Definition and working page for page 11

General Definitions for section 14.0

Tree Farming/Agroforestry

This section refers to trees **planted** for wood (firewood, poles, planks, carving, charcoal, medicinal, etc, but **NOT** fruit trees). It does **not** include naturally growing trees on the farm (unless special care has been given to promote their establishment) or trees growing naturally on the communal areas.

Tree farming is the planting of trees on an area of land for which the main purpose is the production and regeneration of trees for wood on that land.

Agroforestry: is the planting of trees on land for the purpose of complementing other farming activities like crop and animal production. For the purpose of this questionnaire Agroforestry trees are trees planted on boundaries and scattered throughout fields. The main productive unit in this case is Crops and Livestock.

Section 14.2 Details of planted trees

1. Enter the tree codes of the main species grown by the hh
2. If no planks or poles are sold enter a "0" in columns 8, & 9.
3. Total value includes both value of hh utilised trees and sold trees.
4. If no trees were utilised by the hh or sold enter "0" in column 10

Question Specific Definitions

Tree farming (Section 14.0)

Pole trees (Col 6): These are young trees which have a maximum diameter of 6 inches at the bottom and are often used for house construction. They are often the thinning harvest after 3 - 5 years.

Plank trees (Col 7): Trees for sawing into timber planks.

Animal shade: Trees grown for the purpose of providing shade to animals.

Community tree planting scheme (Section 14.3)

Community Forest: A forest planted on the communal land which is planted, replanted or spot planted by the members of the village.

Crop Extension Services (Section 15.1)

Contact Farmer: A farmer who is used by the extension agent as a focal point to demonstrate new interventions. The contact farmer then passes on the message to other farmers

Group member: Member of a group under which the contact farmer leads

Adoption: This is the uptake of an intervention for 2 or more years

Section 15.1 Crop Extension Services

1. For each of the extension providers ask if the hh received extension during 2002/2003 agriculture year and indicate in column 2.
2. For each of the providers complete the rest of the columns

Tree Name Guide Col 1

Code	Local Name	Botanical Name	English Name
01		<i>Senna siamea</i>	Cassod tree
02	Msongoma	<i>Gravellia</i>	Silver oak
03	Mbarika	<i>Azelia quanzensis</i>	Pod mahogany
04	Mkeshia	<i>Acacia spp</i>	Umbrella thorn
05	Msindano	<i>Pinus spp</i>	Pine
06	Mkaratusi	<i>Eucalyptus spp</i>	Red River Gum
07		<i>Cyprus spp</i>	Cyprus tree
08	Mtndoo	<i>Calophyllum inophyllum</i>	
09	Mvule	<i>Melicia excelsa</i>	Iroko
10	Mvinji	<i>Casurina equisetifolia</i>	Whistling oak
11	Msaji	<i>Tectona grandis</i>	Teak
12	Mkungu wa kienyeji	<i>Terminalia catapa</i>	Sea almond
13	Mkungu india	<i>Terminilia ivorensis</i>	Black afara
14	Muhumula	<i>Maesopsis berchemoides</i>	
15			

Code	Local Name	Botanical Name	English Name
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

15.2 Crop Extension Messages									
S/N	Extension Message	Received Advice	Adopted	Source of	S/N	Extension Message	Received Advice	Adopted	Source of
		Yes=1 No=2	Yes=1 No=2	Crop Extension			Yes=1 No=2	Yes=1 No=2	Crop Extension
	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)
15.2.1	Spacing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.9	Crop Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.2	Use of agrochemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.10	Vermin control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.3	Erosion control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.11	Agro-processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.4	Organic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.12	Agro-forestry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.5	Inorganic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.13	Bee Keeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.6	Use of improved seed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.14	Fish Farming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.7	Mechanisation/LST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.15	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.8	Irrigation Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Source of extension (Col 4) Government1 NGO/Dev project ..2 Cooperative ...3 Large scale farmer4 Other (Specify) ...8 Not applicable9									

16.0 LIVELIHOOD CONSTRAINTS

From the list of constraints on the right select:					List of constraints 1. Access to Land 2. Ownership of Land 3. Poor farm Inputs 4. Soil Fertility 5. Access to improved seed 6. Irrigation facilities 7. Access to chemical Inputs 8. Cost of Inputs 9. Extension Services 10. Access to forest resources 11. Hunting and Gathering 12. Access to potable water 13. Access to credit 14. Harvesting 15. Threshing 16. Storage 17. Processing 18. Market Information 19. Transport costs 20. Distruction by animals 21. Stealing 22. Pests and Diseases 23. Local government taxation 24. Access to off Farm Income	
16.1	the 5 most important problems		16.2	the 5 least important problems		
	Order of most importance	Constraint		Order of least importance		Constraint
	(1)	(2)		(1)		(2)
16.1.1	most important	<input type="checkbox"/>	16.2.1	Least important		<input type="checkbox"/>
16.1.2	2nd most important	<input type="checkbox"/>	16.2.2	2nd least important		<input type="checkbox"/>
16.1.3	3rd most important	<input type="checkbox"/>	16.2.3	3rd least important		<input type="checkbox"/>
16.1.4	4th most important	<input type="checkbox"/>	16.2.4	4th least important	<input type="checkbox"/>	
16.1.5	5th most important	<input type="checkbox"/>	16.2.5	5th least important	<input type="checkbox"/>	

17.0 ANIMAL CONTRIBUTION TO CROP PRODUCTION

17.1	Did you use Draft animals to cultivate your land during 02/03 (Yes=1, No=2) <input type="checkbox"/>				17.2	Did you apply organic fertiliser during 02/03 (Yes=1, No=2) <input type="checkbox"/>			
(If no, go to question 17.2)					(If no, go to question 18)				
S/N	Type of Draft	Number owned	Number used	Area cultivated (acres)	S/N	Type of organ Fertiliser	Area applied (acres)		
	(1)	(2)	(3)	(4)		(1)	(2)		
17.1.1	Oxen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.2.1	FYM	<input type="checkbox"/>		
17.1.2	Bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.2.2	Compost	<input type="checkbox"/>		
17.1.3	Cows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
17.1.4	Donkeys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Definitions and working page for page 12

Question Specific Definitions

Crop Extension Advice (Section 15.2)

Mechanisation/LST: LST means Labour Saving Technology

Section 16.0 Livelihood constraints

16.1 List the five most important problems in order of most importance:

1. Read out the list of constraints to the respondent and ask him to select the ones that are a problem. Place a ✓ against the constraints that are a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the largest problems
3. Ask the farmer to list these in order of importance and enter in column 2

16.2 List the five least important problems in order of least importance:

1. Read out the list of constraints to the respondent and ask him to select the ones that are **NOT** a problem. Place an ✗ against the constraints that are **NOT** a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the least problems
3. Ask the farmer to list these in order of least importance and enter in column 2

Definitions and working page for page 13**General definitions for page 13**

Cattle Intake during 2002/03: Cattle purchased, given or born which increases the number of cattle in the herd.

Cattle Offtake during 2002/03:

Cattle removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 18.0)**Cattle type (Q 18.2 & 18.4, Col 1)**

Bull: Mature **Uncastrated** male cattle used for breeding

Cow: Mature female cattle that has given birth at least once

Steer: Castrated male cattle over 1 year

Heifer: Female cattle of 1 year up to the first calving

Calves: Young cattle under 1 year of age

Average Value per Head (Q 18.3, (Col 7 & 9) & 18.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Cattle vaccination (18.5 col 1)

ECF: East Coast Fever

FMD: Foot and Mouth Disease

CBPP: Contagious Bovine Pleura Pneumonia

Section 18.0 Cattle Population, Intake & Offtake.

NOTE: Section 18.1 is for the current population (as of 1st October 2003);
Section 18.2 and 18.3 is for movement in and out of the herd
during the 2002/03 agriculture year.
Section 18.4 is for diseases encountered during the agriculture year.

1. If the household has cows, you would normally expect them to have calves in column 8

2. If calves are reported in column 2, 3, or 4 (18.2.6, 18.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of cattle the importance of this must be reflected in Q 2.2.3

Section 18.5 If cattle are reported to have died in Column 5 then at least that number should be reported in 18.4 col 4

Working area for page 13

19.0 GOAT POPULATION, INTAKE AND OFFTAKE															
19.1 Did the household own, raise or manage any GOATS during the 2002/03 agriculture year? (Yes =1 No =2) <input type="checkbox"/>															
19.2 Goat Population as of 1st October 2003					19.3 Goat Intake during 2002/2003										
S/N	Goat type	Number of Indigenous	Number of Improved		Total	S/N	Number Purchased	Number given /obtained	Number Born	Total Intake of Goats	Average Value per head				
	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)				
19.2.1	Billy Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.1	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
19.2.2	Castrated Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.2	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
19.2.3	She Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.3	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
19.2.4	Male Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.4	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>				
19.2.5	She Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.5	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>				
Grand Total					<input type="text"/>	Total Intake					<input type="text"/>				
19.4 Goat Offtake during 2002/2003								19.5 Goat diseases							
S/N	Goat type	Number Sold/traded	Number consumed by hh	Number given away/stolen	Number died	Total Goat Offtake	Average value per head	S/N	Disease/parasite	Number Infected	Number Treated	No. Rec-oved	Number Died	Last vacci nated	Main Sou -rce
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
19.4.1	Male goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
19.4.2	Castrated Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.1	Foot Rot	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
19.4.3	She Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.2	CC PP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
19.4.4	Male Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.3	Helminthiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
19.4.5	She Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.4	Tetanus	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Total Offtake						<input type="text"/>		19.5.5	Mange	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
19.6 Milk Production							Sold to Q19.6 Col 5) Neighbour.....1 Largescale farm ..5 Local Market.....2 Trader at Farm ...6 Secondary Market ...3 Did not sell7 Processing industry .4 Other8				Last Vaccinated (Col 6) 20031 20004 20022 before 20005 20013 Not Vaccinated...6				
S/N	Season	Litres of milk/day	No. of Goats milked/day	Value/litre	Sold to	Sold/day (Litres)									
	(1)	(2)	(3)	(4)	(5)	(6)									
19.6.1	Wet Season	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>									
19.6.2	Dry Season	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>									
							Main Source of vaccine (Col 7) Private Vet Clinic ..1 Other8 District Vet Clinic ..2 Not Vaccinable9 NGO/Project.....3								

Definitions and working page for page 14**Goat definitions for page 14**

Goat Intake during 2002/03: Goat purchased, given or born which increases the number of goats in the herd.

Goat Offtake during 2002/03:

Goat removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 19.0)**Goat type (Q 19.2 & 19.4, Col 1)**

Billy Goat (he-goat): Mature **Uncastrated** male goat used for breeding

Castrated goat: Male goat that has been castrated.

She Goat: Mature female goat over 9 months of age

Kid: Young goat under 9 months of age.

Average Value per Head (Q 19.3, (Col 7 & 9) & 19.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Goat vaccination (19.5 col 1)

FMD: Foot and Mouth Disease

CCPP: Contagious Caprine Pleura Pneumonia

LSD: Lumpy Skin Disease

Section 19.0 Goat Population, Intake & Offtake.

NOTE: Section 19.1 is for the current population (as of 1st October 2003); Section 19.2 and 18.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 19.4 is for diseases encountered during the agriculture year.

1. If the household has she goats, you would normally expect them to have kids in column 8
2. If kids are reported in column 2, 3, or 4 (19.2.6, 19.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of goats the importance of this must be reflected in Q 2.2.3

Section 19.5 If goats are reported to have died in Column 5 then at least that number should be reported in 19.4 col 4

Working area for page 14

20.0 SHEEP POPULATION, INTAKE AND OFFTAKE

20.1 Did the household own, raise or manage any **SHEEP** during the 2002/03 agriculture year? (Yes =1 No =2)
 (If no go to section 21.0)

20.2 **Sheep Population** as of 1st October 2003

20.3 **Sheep Intake** during 2002/2003

S/N	Sheep type (1)	Number of Indigenous (2)	Number of Improved			Total (5)
			for Mutton (3)	Dairy (4)		
20.2.1	Ram	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
20.2.2	Castrated Sheep	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
20.2.3	She Sheep	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
20.2.4	Male lamb	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
20.2.5	She lamb	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
Grand Total					<input type="text"/>	

S/N	Number Purchased (6)	Number given /obtained (7)	Number Born (8)	Total Intake of Sheep (9)	Average Value per head (10)
20.3.2	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
20.3.3	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	
20.3.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20.3.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

20.4 **Sheep Offtake** during 2002/2003

20.5 **Sheep diseases**

S/N	Sheep type (1)	Number Sold/traded (2)	Number con sumed by hh (3)	Number given away/stolen (4)	Number died (5)	Total Sheep Offtake (6)	Average value per head (7)
20.4.2	Castrated Sheep	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20.4.3	She Sheep	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20.4.4	Male lamb	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20.4.5	She lamb	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Total Offtake						<input type="text"/>	

S/N	Disease/ parasite (1)	Number Infected (2)	Number Treated (3)	No. Rec -overed (4)	Number Died (5)	Last vacci nated (6)	Main Sou -rce (7)
20.5.2	CC PP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20.5.3	Helminthiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X X	
20.5.4	Trypa nsomiasis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20.5.5	FMD	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Last Vaccinated (Col 6)
 20031 20004
 20022 before 20005
 20013 Not Vaccinated...6

Main Source of vaccine (Col 7)
 Private Vet Clinic ..1 Other8
 District Vet Clinic ..2 Not applicable9
 NGO/Project.....3

Definitions and working page for page 15**Sheep definitions for page 15**

Sheep Intake during 2002/03: Sheep purchased, given or born which increases the number of Sheep in the herd.

Sheep Offtake during 2002/03:
Sheep removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 20.0)**Sheep type (Q 20.2 & 20.4, Col 1)**

Ram: Mature **Uncastrated** male goat used for breeding

Castrated sheep: Male sheep that has been castrated.

Ewe: Mature female sheep over 9 months of age

Lamb: Young sheep under 9 months of age.

Average Value per Head (Q 20.3, (Col 7 & 9) & 20.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Sheep vaccination (20.5 col 1)

FMD: Foot and Mouth Disease

CCPP: Contagious Caprine Pleura Pneumonia

Section 20.0 Sheep Population, Intake & Offtake.

NOTE: Section 20.1 is for the current population (as of 1st October 2003); Section 20.2 and 20.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 20.4 is for diseases encountered during the agriculture year.

1. If the household has ewes, you would normally expect them to have kids in column 8
2. If lambs are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of Sheep the importance of this must be reflected in Q 2.2.3

Section 20.5 If Sheep are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 15

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21.0 PIG POPULATION AND PRODUCTION															
21.1		Did the household own, raise or manage any PIGS during the 2002/03 agriculture year (Yes =1 No =2) <input type="checkbox"/>													
21.2		PIG Population as of 1 st October 2003											21.3 Pig increase during 2002/2003		
S/N	Pig type	Number													
	(1)	(2)													
21.2.1	Boar	<input type="text"/>													
21.2.2	Castrated male	<input type="text"/>													
21.2.3	Sow/Gilt	<input type="text"/>													
21.2.4	Male piglet	<input type="text"/>													
21.2.5	She piglet	<input type="text"/>													
Grand Total		<input type="text"/>													
21.4 Pig decrease during 2002/2003								21.5 Pig diseases/pests/conditions							
S/N	Pig type	Number Sold/traded	Number consumed by hh	Number given away/stolen	Number died	Total Pig Offtake	Average value per head	S/N	Disease/ parasite	Number Infected	Number Treated	No. Rec- overed	Number Died	Last vacci- nated	Main Sou- rce
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
21.4.1	Boar	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21.4.2	Castrated male	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.1	Anthrax	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21.4.3	Sow/Gilt	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.2	ASF	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21.4.4	Male piglet	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.3	Anemia	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21.4.5	She piglet	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.4	Helmenthiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total Offtake						<input type="text"/>									
22.0 LIVESTOCK PEST & PARASITE CONTROL								22.3 Do you normally encounter a tick problem (Yes=1, No=2) <input type="checkbox"/>				Last Vaccinated (Col 6) 2003 ..1 20004 2002 ..2 before 20005 2001 ...3 Not Vaccinated.6			
								(If the response is 'NO' go to section 22.5)							
22.1 Did you deworm your animals during 2002/03 (Yes=1, No=2) <input type="checkbox"/>								22.4 Which methods of tick control did you use <input type="checkbox"/>				Main Source (Col 7) Private Vet Clinic ..1 District Vet Clinic ..2 NGO/Project.....3 Other8 Not applicable9			
								Control method (Q 22.4) None..1 Spraying ..2 Dipping..3 Smearing ..4 Other.8							
								22.5 Do you normally encounter a tsetse fly problem (Y=1, N=2) <input type="checkbox"/>							
								(If the response is 'NO' go to section 23.0)							
22.2 Which animals did you deworm ? (Tick appropriate boxes)								22.6 Which methods of control did you use <input type="checkbox"/>							
Cattle <input type="checkbox"/> Goats <input type="checkbox"/> Sheep <input type="checkbox"/> Pigs <input type="checkbox"/>								Control method (Q22.6) None .1 Spray .2 Dipping .3 Trapping .4 Other .8							

Definitions and working page for page 16**Pigs definitions for page 16**

Pig Intake during 2002/03: Pigs purchased, given or born which increases the number of Pigs in the production unit.

Pig Offtake during 2002/03:

Pigs removed from the production unit, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 21.0)**Pigs type (Q 21.2 & 21.4, Col 1)**

Boar: Mature **Uncastrated** male pig used for breeding

Castrated Pig: Male pig that has been castrated.

Sow: Mature female pig that has given birth to at least one litter of pigs.

Gilt: Female pig of 9 months up to the first farrowing.

Piglet: Young pig under 3 months of age.

Average Value per Head (Q 21.3, (Col 7 & 9) & 21.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Pig vaccination (21.5 col 1)

ASF: African Swine Fever

Section 21.0 Pig Population, Intake & Offtake.

NOTE: Section 21.1 is for the current population (as of 1st October 2003); Section 21.2 and 21.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 21.4 is for diseases encountered during the agriculture year.

1. If the household has sows, you would normally expect them to have piglets in column 8
2. If piglets are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of Pigs the importance of this must be reflected in Q 2.2.3

Section 20.5 If Pigs are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 16

|

23.0 Other Livestock currently available and details of consumption and sales during the last 12 months										
	Animal type	Current		Sold during 2002/03		Consumed during 2002/03				
		Number		Number	Average Value/head	Number	Average Value/head			
		(1)		(2)	(3)	(4)	(5)			
23.1	Indigenous Chicken	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.2	Layer	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.3	Broiler	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.4	Ducks	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.5	Turkeys	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.6	Rabbits	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.7	Donkeys	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.8	Horses	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X X X	X X X X X			
23.9	Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
24.0	CHICKEN DISEASES	Number infected		Number Treated		Number Died		Number Recovered		
24.1	Newcastle Disease	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.2	Gumboro	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.3	Coccidiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.4	Chorysa	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.5	Fowl typhoid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
25.0	LIVESTOCK PRODUCT	Sold during 2002/03				Consumed/utilised during 2002/03				
		Number				Average Value/unit				
25.1	Eggs	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	<input type="text"/>	<input type="text"/>	<input type="text"/>	
25.2	Hides	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
25.3	Skins	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
26.0	List in order of importance the outlets for the sale of Livestock						27.0 Access to functional Livestock structures /accessories			
S/N	Impo-rtance of outlet	Outlets for Cattle	Out-lets for Goat	Outlets for Sheep	Outl-ets for Pigs	Outlets for Chick-ens	S/N	Type of structure/ accessory	Source of Structure	Distance to struct-ure (Km)
	(1)	(2)	(3)	(4)	(5)	(6)		(1)	(2)	(3)
26.1	1st	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.1	Cattle Dip	<input type="text"/>	<input type="text"/>
26.2	2nd	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.2	Spray Race	<input type="text"/>	<input type="text"/>
26.3	3rd	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.3	Hand powered sprayer	<input type="text"/>	<input type="text"/>
26.4	4th	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.4	Cattle crush	<input type="text"/>	<input type="text"/>
26.5	5th	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.5	Primary Market	<input type="text"/>	<input type="text"/>
Outlet code (Col 2, 3, 4 & 5) Trader at farm1 Abattoir/factory.....5 Local Market2 Another farmer6 Secondary market/auction.....3 Other (Specify).....8 Neighbour4							27.6	Secondary Market	<input type="text"/>	<input type="text"/>
Source of structure (Q27.0 - Col 2) Owns1 NGO6 Cooperative2 Large scale farm7 Local farmers association3 Other8 Gov extension/veterinary4 Not applicable9 Development project5							27.7	Abattoir	<input type="text"/>	<input type="text"/>
							27.8	Slaughter Slab	<input type="text"/>	<input type="text"/>
							27.9	Hide/skin shed	<input type="text"/>	<input type="text"/>
							27.10	Input supply	<input type="text"/>	<input type="text"/>
							27.11	Veterinary Clinic	<input type="text"/>	<input type="text"/>
							27.12	Village holding ground	<input type="text"/>	<input type="text"/>
							27.13	village watering point/dam	<input type="text"/>	<input type="text"/>
							27.14	Drencher	<input type="text"/>	<input type="text"/>

Definition and working page for page 17

Question Specific Definitions Section 26.0)

Procedures for questions

Section 23.0 - Other Livestock:

1. The current number includes both adult and young animals. For example The number of chickens in col 1 would include adults and chicks.

Question Specific Definitions Section 27.0)

Access to functional Livestock Structures/accessories (Section 27.0):

NOTE: The structures must be functional. If they are not working/derelect then they should not be included. The distance to the next nearest functional structure should be taken.

Spray Race: A fixed spray structure on an animal race for spraying acaricide

Cattle crush: Corridor structure for restraining cattle.

Abattoir: Large building designed for slaughtering a large amount of animals. It normally has complex structures to assist in the slaughter and storage and a high level of hygiene is maintained.

Slaughter Slab: Concrete slab designed for slaughtering a small amount of animals

Hides: obtained from Cattle

Skins: Obtained from sheep and goats

Hide/Skin Shed: Shed for curing/tanning animal skins and hides

Village holding Pen: Enclosure for containing large amount of livestock which is owned communally.

Drencher: Device for orally administering medicine to livestock. If no product was sold in 2002 enter "0" in columns 6, 7 & 9.

Section 26.0 - Outlets for livestock:

Using the codes enter the outlets for the sale of different livestock in order of importance. If there are, for example, only 2 outlets mark the rest with a "X".

28.0 FISH FARMING

28.1 Was **Fish farming** carried out by this household during 2002/2003? (Yes =1, No=2) (If the response is 'NO' go to section 29.0)

28.2 Specify details of **fish farming practices**

S/N	Product ion unit number	Fish farming system	Size of unit/pond (m2)	Source of fingerling	frequency of stocking (No/year)	Number of stocked fish			Number of fish harvested	weight of fish harvested	weight of fish sold	Mainly sold to
						Tilapia	Carp	Other				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
28.1.1	1	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
28.1.2	2	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
28.1.3	3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Farming System (Col 2)
 Natural Pond...1 Natural Lake...3 Other...8
 Dug out pond...2 Water reservoir...4

Source of fingerlings (Col 4)
 Own pond...1 NGO/Project...3 Private trader...5
 Government Institution...2 Neighbour...4 Other...8

Mainly sold to (Col 12)
 Neighbour...1 Secondary Market...3 Large scale farm...5 Did not sell...7
 Local Market...2 Processing industry...4 Trader at Farm...6 Other...8

29.0 LIVESTOCK EXTENSION

29.1 Did you receive **livestock extension advice** during 02/03 (Yes=1,No=2) (If the response is 'NO' go to section 30.0)

S/N	Livestock Extension Message	Received Advice Yes=1,No=2	Adopted Yes=1 No=2	Source of Livestock Extension
	(1)	(2)	(3)	(4)
29.1.1	Feed and Proper feeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.2	Housing (Goat, Dairy, Poultry, Pigs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.3	Proper Milking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.4	Milk Hygiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.5	Disease control (dipping/spraying)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.6	Herd/Flock size and selection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.7	Pasture Establishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.8	Group formation and strengthening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.9	Calf rearing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.10	Use of improved bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.11	Other livestock extension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source of livestock extension (Col 4)
 Government...1 NGO/Dev project...2 Cooperative...3 Large scale farmer...4 Other (Specify)...8

29.2 For the following **Livestock Extension Service Providers** give details

S/N	Extension Provider	If you pay for extension, what is the cost/yr	Contact farmer/group member (Y=1,N=2)	No. of visits by extension agency/year	No. of mess -ages adopted in the last 3 yrs	Quality of Service
	(1)	(2)	(3)	(4)	(5)	(6)
29.2.1	Government	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.2	NGO/dev project	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.3	Cooperative	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.4	Large Scale farmer	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.5	Other.....	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Quality of service (Col 6) Very good...1 good...2 Average...3 Poor...4 No Good...5

30.0 GOVERNMENT REGULATORY PROBLEMS

31.1 Did you face problems with government regulations during 2002/03 (Y=1, N=2) (If the response is no go to section 31.0)

	Problem code	Problem code
30.1.1	1st	Land ownership by government...1 Restriction of sale between regions...2
30.1.2	2nd	Import of food items...3
30.1.3	3rd	Other (specify)...8

Definitions and working page for page 18**General definitions for Section 28.0**

Fish farming: Refers to the rearing/production of fish. It is different to fishing in that the fish have to be reared and fed in fish farming. Fishing traps or captures naturally occurring fish in rivers, lakes and the sea and should not be included in this section.

Question Specific Definitions (Section 28.2)

Production unit number (Col 1): A production unit is a pond river/lake which is treated as a separate entity for the production of fish eg it may be by virtue of manageable size, maturity of fish, type of fish etc. Eg a farmer may have 3 fish ponds. (each one is a separate production unit).

Frequency of stocking (Col 5): What is the number of times the farmer puts new fingerlings into the pond each year.

Fingerlings: These are young immature fish used for stocking ponds.

Sold: (Col 10 & 11)

If no fish were sold enter "0" in column 10 and 11)

Livestock Extension Services (Section 29.1)

Adopted (Col 3): This is the uptake of an intervention for 2 or more years

Livestock Extension Service providers (Section 29.2)

Contact Farmer: A farmer who is used by the extension services as a focal point to demonstrate new interventions to. The contact farmer then passes on the message to other farmers

Adopted (Col 5): This is the uptake of an intervention for 2 or more years

Working area for page 18

31.0 LABOUR USE

31.1 Who is **mainly** responsible for undertaking the following tasks:

S/N	Activity	Tick if carried out by hh	Main responsibility
	(1)	(2)	(3)
31.1.1	Land Clearing	<input type="checkbox"/>	<input type="checkbox"/>
31.1.2	Soil preparation (by hand)	<input type="checkbox"/>	<input type="checkbox"/>
31.1.3	Soil preparation (oxen/tractor)	<input type="checkbox"/>	<input type="checkbox"/>
31.1.4	Planting	<input type="checkbox"/>	<input type="checkbox"/>
31.1.5	Weeding	<input type="checkbox"/>	<input type="checkbox"/>
31.1.6	Crop Protection	<input type="checkbox"/>	<input type="checkbox"/>
31.1.7	Harvesting	<input type="checkbox"/>	<input type="checkbox"/>
31.1.8	Crop processing	<input type="checkbox"/>	<input type="checkbox"/>
31.1.9	Crop marketing	<input type="checkbox"/>	<input type="checkbox"/>
31.1.10	Cattle rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>
31.1.11	Cattle herding	<input type="checkbox"/>	<input type="checkbox"/>
31.1.12	Cattle marketing	<input type="checkbox"/>	<input type="checkbox"/>
31.1.13	Goat/sheep rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>
31.1.14	Goat and sheep herding	<input type="checkbox"/>	<input type="checkbox"/>
31.1.15	Goat and sheep marketing	<input type="checkbox"/>	<input type="checkbox"/>
31.1.16	Milking	<input type="checkbox"/>	<input type="checkbox"/>
31.1.17	Pig rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>
31.1.18	Poultry keeping	<input type="checkbox"/>	<input type="checkbox"/>
31.1.19	Collecting Water	<input type="checkbox"/>	<input type="checkbox"/>
31.1.20	Collecting Firewood	<input type="checkbox"/>	<input type="checkbox"/>
31.1.21	Pole cutting	<input type="checkbox"/>	<input type="checkbox"/>
31.1.22	Timber wood cutting	<input type="checkbox"/>	<input type="checkbox"/>
31.1.23	Building/maintaining house	<input type="checkbox"/>	<input type="checkbox"/>
31.1.24	Making Beer	<input type="checkbox"/>	<input type="checkbox"/>
31.1.25	Bee keeping	<input type="checkbox"/>	<input type="checkbox"/>
31.1.26	Fishing	<input type="checkbox"/>	<input type="checkbox"/>
31.1.27	Fish farming	<input type="checkbox"/>	<input type="checkbox"/>
31.1.28	Off-farm income generation	<input type="checkbox"/>	<input type="checkbox"/>

Responsibility (Col 3)
 HH head alone1 Girls6
 Adult Males2 Boys & Girls7
 Adult Females.....3 All household members.....8
 Adults.....4 Hired labour9
 boys 5

Satisfied with service (Col 4)
 Very good1 Average.....3 No good5
 Good2 Poor4 Not applicable 9

32.0 SUBSISTENCE vs NON-SUBSISTENCE

32.1 Indicate if any members of the household was involved in the following activities and assess the **percentage used for subsistence/consumption** by the household:

S/N	Activity	Tick if hh was involved in activity	Estimate % used for subsistence	Estimate % used for non subsistence	Check Total
	(1)	(2)	(3)	(4)	(5)
32.1.1	Crop production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.2	Livestock production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.3	Vegetable production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.4	Tree cutting for firewood	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.5	Tree logging for poles	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.6	Tree logging for timber	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.7	Tree logging for charcoal	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.8	fishing	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.9	bee keeping	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.10	employment/off farm	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.11	employment/off farm	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32.1.12	Remittances	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

33.0 ACCESS TO INFRASTRUCTURE & OTHER SERVICES

S/N	Type of service	Distance in Km	S/N	Type of service	Distance in Km
	(1)	(2)		(1)	(2)
33.1	Primary School	<input type="text"/>	32.7	Feeder Road	<input type="text"/>
33.2	Secondary School	<input type="text"/>	32.8	All weather road	<input type="text"/>
33.3	Health Clinic	<input type="text"/>	32.9	Tarmac road	<input type="text"/>
33.4	Hospital	<input type="text"/>	32.10	Primary market	<input type="text"/>
33.5	District Capital	<input type="text"/>	32.11	Secondary market	<input type="text"/>
33.6	Regional Capital	<input type="text"/>	32.12	Tertiary market	<input type="text"/>

S/N	Type of service	Distance in Km	No of visits/year	Satisfied with service
	(1)	(2)	(3)	(4)
33.13	Vet Clinic	<input type="text"/>	<input type="text"/>	<input type="text"/>
33.14	Extension Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>
33.15	Research Station	<input type="text"/>	<input type="text"/>	<input type="text"/>
33.16	Plant protection Lab	<input type="text"/>	<input type="text"/>	<input type="text"/>
33.17	Land registration office	<input type="text"/>	<input type="text"/>	<input type="text"/>
33.18	Livestock Dev Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>

Definition and working page for page 19**Question specific definitions (Section 31.1)****Activity (Col 1):**

Land Clearing: Refers to removing trees/bush/grass prior to ploughing

Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc).

Cattle Rearing: Tending to cattle at home, eg assisting with births, castration, etc. Different livestock keeping activity to herding.

Cattle Herding: Moving livestock from place to place for grazing and water. If herding is carried out the respondent must also give a response to rearing/husbandry

Question Specific Definitions (Section 32.0.0)**Activity (Col 1):**

Subsistence: For the family's survival, rather than for the generation of cash. This includes feeding the hh, provision of water and fuel for cooking. The source of these products are usually from the land resources available to the family. Remember that not all cash earnings are for non subsistence purposes/activities as cash can be used to purchase subsistence items eg food.

Non -subsistence: Cash used for items and activities which are not crucial for the survival of the family. This includes modern medication, non working clothes, refined beer, school fees, etc.

Procedures for (Section 31.1)**Section 31.1 ((Labour use)**

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 27.1.1 and complete column 3.
3. Make sure you stress MAINLY responsible.

NOTE: If an activity has been mentioned previously in the questionnaire eg that the hh keeps chickens, make sure a response is obtained in the appropriate place ie poultry keeping.

If off-farm income generation is mentioned, check for responses to off farm income in other parts of the questionnaire

Section 32.0 - Subsistence vs Non-subsistence

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 32.1.1 and complete column 3 & 4. For each activity make an assessment of the percentage used for subsistence survival and the percent converted to cash for non subsistence goods and items.
3. Make sure you stress MAINLY responsible.

NOTE: Cross check the responses with previous sections in the questionnaire. eg if a response is given to remittances check for an entry in question 2.2.5

34.0 HOUSEHOLD FACILITIES																					
34.1 House Construction		34.2 Household assets																			
<p>For the main dwelling, what are the main building materials used in the construction of the following</p> <p>34.1.1: Roof <input type="checkbox"/> 34.1.2 Number of rooms <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px;"> <p>Roof Material</p> <p>Iron Sheets.....1 Tiles2 Concrete3 Asbestos4 Grass/leaves.....5 Grass & mud.....6 Other (Specify) 8</p> </div>		<p>Does your household own the following?</p> <table border="1"> <thead> <tr> <th>Asset</th> <th>Y=1 N=2</th> </tr> </thead> <tbody> <tr><td>34.2. Radio/cassette, music system)</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Telephone (landline)</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Telephone (mobile)</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Iron</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Wheelbarrow</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Bicycle</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Vehicle</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Television</td><td><input type="checkbox"/></td></tr> </tbody> </table>		Asset	Y=1 N=2	34.2. Radio/cassette, music system)	<input type="checkbox"/>	34.2. Telephone (landline)	<input type="checkbox"/>	34.2. Telephone (mobile)	<input type="checkbox"/>	34.2. Iron	<input type="checkbox"/>	34.2. Wheelbarrow	<input type="checkbox"/>	34.2. Bicycle	<input type="checkbox"/>	34.2. Vehicle	<input type="checkbox"/>	34.2. Television	<input type="checkbox"/>
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34.3 Energy use by the Household		34.4 Access to drinking water																			
<p>Energy use and access by the household</p> <p>Main Source of energy for</p> <p>34.3.1 Lighting <input type="checkbox"/> 34.3.2 Cooking <input type="checkbox"/></p> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>Lighting energy</p> <p>Mains electricity.....01 Solar02 Gas (biogas)03 Hurricane Lamp04 Pressure Lamp05 Wick Lamp06 Candles07 Firewood08 Other (specify) 98</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>Cooking energy</p> <p>Mains electricity.....01 Solar02 Gas (hh biogas)03 Bottled gas04 Paraffin/kerocine.....05 Charcoal.....06 Firewood07 Crop Residues08 Livestock dung09 Other (specify)98</p> </div> </div>		<table border="1"> <thead> <tr> <th>Season</th> <th>Main source of drinking water</th> <th>Distance to source (in km)</th> <th>Time to and from source (Hour : minute)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> </tr> </thead> <tbody> <tr> <td>34.4. Wet Season</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> · <input type="checkbox"/></td> <td><input type="checkbox"/> : <input type="checkbox"/></td> </tr> <tr> <td>34.4. Dry Season</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> · <input type="checkbox"/></td> <td><input type="checkbox"/> : <input type="checkbox"/></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Main Source of drinking water</p> <p>Piped water01 Covered rainwater catchment ...07 Protected well02 Uncovered rainwater catchment 08 Protected/covered spring03 Water Vendor09 Unprotected Well04 Tanker truck10 Unprotected spring05 Bottled water11 Surface water (lake/dam/river/stream)06 Other (Specify)98</p> </div>		Season	Main source of drinking water	Distance to source (in km)	Time to and from source (Hour : minute)	(1)	(2)	(3)	(4)	34.4. Wet Season	<input type="checkbox"/>	<input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> : <input type="checkbox"/>	34.4. Dry Season	<input type="checkbox"/>	<input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> : <input type="checkbox"/>		
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34.4. Dry Season	<input type="checkbox"/>	<input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> : <input type="checkbox"/>																		
34.5 Access to toilet facilities		34.6 Food consumption patterns																			
<p>34.5.1 What type of toilet does your hh use <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px;"> <p>Type of toilet</p> <p>No toilet/bush.....1 Improved pit latrine - hh owned.....4 Flush toilet2 Other type (specify)5 Pit latrine - traditional ..3</p> </div>		<table border="1"> <tbody> <tr> <td>34.6. Number of meals the hh normally has per day</td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.6. Number of days hh consumed meat last w</td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.6. How often did the hh have problems in satisfying the food needs of the hh last year?</td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Problems satisfying hh food needs (row 34.6.3)</p> <p>Never1 Seldom2 Sometimes3 Often4 Always5</p> </div>		34.6. Number of meals the hh normally has per day	<input type="checkbox"/>	34.6. Number of days hh consumed meat last w	<input type="checkbox"/>	34.6. How often did the hh have problems in satisfying the food needs of the hh last year?	<input type="checkbox"/>												
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34.7 Source of Household income																					
<p>34.7.1 What is the households main source of cash income? <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px;"> <p>Source of Income codes</p> <p>Sale of food crops01 Wages or salaries in cash07 Sale of Livestock.....02 Other casual cash earnings ..08 Sale of livestock products ...03 Cash remittances09 Sale of cash crops.....04 Fishing10 Sale of forest products05 Other98 Business income.....06 Not applicable99</p> </div>																					

Definition and working page for page 20**Household facilities (Section 34):****Number of rooms used for sleeping in the household (Q 34.1)**

Include sitting room, dining room, kitchen, etc if used for sleeping. It also includes rooms outside the main dwelling

A room is defined as a space which is separate from the rest of the building by a permanent wall or division. A building/house that is not divided into rooms is considered to have one room.

Household assets (Q 34.2): these assets must be functioning. Do not include if broken.

Access to drinking water (Q 34.4): If there is more than one source, use the one, which the hh uses most frequently.

Main source of hh cash income:

Activity that provides the hh with the most cash during 2002/03 agriculture year.

Average/maximum yields						Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop					
Crop Name	kg/ha		kg/acre		Crop Name	kg/ha		kg/acre			
	Average	Max	Average	Max		Average	Max	Average	Max		
11 Maize	1200	6250	486	2530	86 Cabbage			0	0		
12 Paddy	700	4000	283	1619	87 Tomatoes			0	0		
13 Sorghum	750	3500	304	1417	88 Spinach			0	0		
14 Bulrush Millet	350	3000	142	1215	89 Carrot			0	0		
15 Finger Millet	300	2500	121	1012	90 Chillies			0	0		
16 Wheat	1200	4500	486	1822	91 Amaranths			0	0		
17 Barley	1400	2300	567	931	92 Pumpkins			0	0		
21 Cassava	3000	7000	1215	2834	93 Cucumber			0	0		
22 Sweet Potato	600	8000	243	3239	94 Egg Plant			0	0		
23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0		
24 Yams	4000	10000	1619	4049	96 Cauliflower			0	0		
25 Cocoyams	2500	5000	1012	2024	52 Sisal	800	25000	324	10121		
26 Onions			0	0	54 Coffee	500	100	202	40		
27 Ginger			0	0	55 Tea	2500	10000	1012	4049		
31 Beans	400	1300	162	526	56 Cacao	200	1000	81	405		
32 Cowpeas	300	1750	121	709	57 Rubber	400	1400	162	567		
33 Green gram			0	0	58 Wattle			0	0		
34 Pigeon pea	600	2000	243	810	59 Kapok			0	0		
35 Chick peas	500	1500	202	607	60 Sugar Cane	60000	150000	24291	60729		
36 Bambara nut	600	4000	243	1619	61 Cardamom			0	0		
41 Sunflower	600	1700	243	688	71 Banana	10000	50000	4049	20243		
42 Simsim	300	1000	121	405	72 Avocado			0	0		
43 Groundnut	600	4000	243	1619	73 Mangoes	10000	25000	4049	10121		
47 Soyabeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340		
48 Caster seed	300	750	121	304	76 Orange	20000	40000	8097	16194		
75 Pineapple	25000	60000	10121	24291	77 Grape fruit	30000	50000	12146	20243		
50 Cotton	300	1500	121	607	78 Grapes	5000	30000	2024	12146		
51 Tobacco	500	2000	202	810	79 Mandarin/tange	20000	40000	8097	16194		
53 Pyrethrum			0	0	80 Guava	7000	35000	2834	14170		
62 Jute	800	3500	324	1417	81 Plums			0	0		
44 Palm Oil	1200	5000	486	2024	82 Apples			0	0		
45 Coconut	2000	8000	810	3239	83 Pears			0	0		
46 Cashewnut	9	60/tree	4	24	84 Pitches			0	0		

Back Page Reference material

This page contains reference information that may be required to complete some of the questions in the questionnaire.

Weights and measures

1 hectare = 10,000 sq metres (100 x 100 metres)
 1 kilometre = 1000 metres
 1 acre = 4840 square yards (110 x 44 yards)

Conversions

1 hectare = 2.47 acres
 1 mile = 1.61 Kilometres

Kg equivalents

The following standards may be used as a guide to obtain kg if the reported unit is different. Only use these conversions if the respondent is unable to provide weights in kgs.

	Crop Name	Number of Kgs			
		Standard		Non-standard	
		Bag	Tin	Name	kgs
11	Maize	100	18	Rumbesi	140
12	Paddy	75	15		
13	Sorghum	100	18		
14	Bulrush Millet	100	18		
15	Finger Millet	120	20		
16	Wheat	75	15		
17	Barley	75	15		
21	Cassava	60	12		
22	Sweet Potatoe	80	16		
23	Irish potatoes	80	16		
24	Yams	80	16		
25	Cocoyams	80	16		
26	Onions	80	16		
27	Ginger	75	15		
31	Beans	100	20		
32	Cowpeas	100	20		
33	Green ram	100	20		
34	Pigeon pea	100	20		
35	Chick peas	100	20		
36	Bambara nut	100	20		
41	Sunflower	60	12		
42	Simsim	100	20		
43	Groundnut	50	10		
47	Soyabeans	100	20		
48	Caster seed	100	20		
75	Pineapple	90	18		
50	Cotton	50	10		
51	Tobacco	70	14		
53	Pyrethrum	60	12		
62	Jute	50	10		
44	Palm Oil	100			
45	Coconut	75			
46	Cashewnut	80			

	Crop Name	Number of Kgs			
		Standard		Non-standard	
		Bag	Tin	Name	kgs
86	Cabbage	50			
87	Tomatoes	90			
88	Spinach	45			
89	Carrot	110			
90	Chillies	85			
91	Amaranths	50			
92	Pumpkins	60			
93	Cucumber	80			
94	Egg Plant	70			
95	Water Mellon	80			
96	Cauliflower	50			
52	Sisal	130			
54	Coffee	55			
55	Tea	60			
56	Cacao	60			
57	Rubber				
58	Wattle	90			
59	Kapok				
60	Sugar Cane	120			
61	Cardamom	100			
71	Banana	120			
72	Avocado	140			
73	Mangoes	130			
74	Papaw	100			
76	Orange	130			
77	Grape fruit	120			
78	Grapes	80			
79	Mandarin/tange	110			
80	Guava	110			
81	Plums	110			
82	Apples	110			
83	Pears	110			
84	Pitches	110			

For official use only:

If a question has a query, an indication will be made by the supervisor/data entry controller on the front page of the questionnaire. This space is to note what and where the problem is, the action required to be taken and the responsible person to take follow up action.

Nature of the problem:

Action Required: National supervisor action

Field supervisor action

Overall Status: Does not affect overall integrity of the questionnaire.
 More data is required before it can be used

Discard and resample
 Discard as missing data